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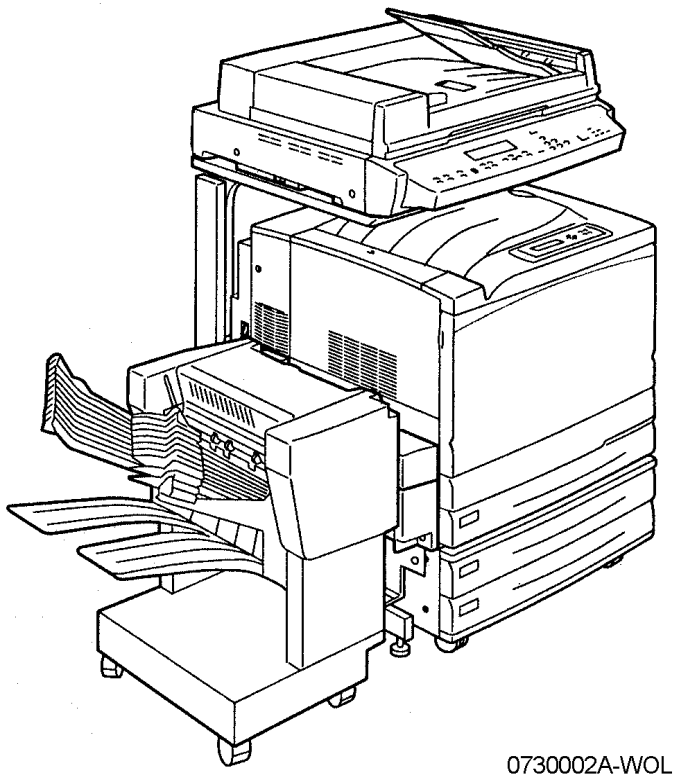
XEROX

# Phaser 790/DocuColor 2006
# Service Manual



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**CAUTION**

*Certain components in the Phaser 790/DocuColor 2006 are susceptible to damage from electrostatic discharge. Observe all ESD procedures to avoid component damage.*

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**WARNING**

**This equipment generates, uses and can radiate radio frequency energy, and if not installed and used in accordance with the instructions documentation, may cause interference to radio communications. It has been tested and found to comply with the limits for a Class A computing device pursuant to subpart J of part 15 of FCC rules, which are designed to provide reasonable protection against such interference when operated in a commercial environment. Operation of this equipment in a residential area is likely to cause interference in which case the user, at his own expense, will be required to correct the interference.**

**WARNING**

**This machine contains an invisible laser. There is no visual indication that the laser beam is present. During servicing, the machine is a Class 3B product because of the invisible laser. the laser beam could cause eye damage if looked at directly. Service procedures must be followed exactly as written without change. The service representative must observe the established local laser safety precautions when servicing the machine. Do not place tools with a reflective surface into the ROS opening. Do not look in the area of the ROS window if the power is On and the laser is energized.**

# Introduction

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# About this Manual

This Service Manual is part of the multinational documentation system for the Phaser 790 Printer and DC 2006 Copier./Printer The Service Documentation is used in order to diagnose machine malfunctions, adjust components and has information which is used to maintain the product in superior operating condition. It is the controlling publication for a service call. Information on its use is found in the Introduction of the Service Documentation.

This manual contains information that applies to **NASG and ESG** copiers.

## Service Manual Revision

The Service Manual will be updated as the machine changes or as problem areas are identified.

# Organization

This Service Manual is divided into nine sections. The titles of the sections and a description of the information contained in each section are contained in the following paragraphs:

## Section 1 Service Call Procedures

This section contains procedures that determine what actions are to be taken during a service call on the machine and in what sequence they are to be completed. This is the entry level for all service calls.

## Section 2 Status Indicator RAPs

This section contains the diagnostic aids for troubleshooting the Fault Code and non-Fault Code related faults (with the exception of copy quality problems).

## Section 3 Image Quality

This section contains the diagnostic aids for troubleshooting any copy quality problems, as well as copy quality specifications and copy defect samples.

## Section 4 Repairs/Adjustments

This section contains all the Adjustments and Repair procedures.

### Repairs

Repairs include procedures for removal and replacement of parts which have the following special conditions:

- **When removal or replacement cannot be determined from the exploded view of the Parts List.**
- **When there is a cleaning or a lubricating activity associated with the procedure.**
- **When the part requires an adjustment after replacement.**
- **When a special tool is required for removal or replacement.**

Use the repair procedures for the correct order of removal and replacement, for warnings, cautions, and notes.

### Adjustments

Adjustments include procedures for adjusting the parts that must be within specification for the correct operation of the system.

Use the adjustment procedures for the correct sequence of operation for specifications, warnings, cautions and notes.

## Section 5: Parts Lists

This section contains the Printer/Copier Parts List.

## Section 6: General Procedures/Information

This section contains General Procedures, Diagnostic Programs, and Copier Information.

## Section 7: Wiring Data

This section contains drawings, lists of plug/jack locations, and diagrams of the power distribution wire networks in the machine. Individual wire networks are shown in the Circuit Diagrams contained in Section 2. This section also contains the Block Schematic Diagrams.

# How to Use this Documentation

The Service Call Procedures in Section 1 describe the sequence of activities used during the service call. The call **must** be entered using these procedures.

## Use of the Circuit Diagrams

Circuit Diagrams (CDs) are included in Sections 2 (Status Indicator RAPs) and 3 (Image Quality RAPs) of the Service Manual. All wirenets, with the exception of power distribution wirenets, are shown on the CDs. Power distribution wirenets are shown in Section 7 (Wiring Data) of the Service Manual. The power distribution wirenets on the CDs will end at the terminal board for the power being distributed. Find the wirenet for that power and locate the terminal board on the wirenet. Use the wirenet to troubleshoot any power distribution wiring not shown on the CD.

## Use of the Block Schematic Diagrams

Block Schematic Diagrams (BSDs) are included in Section 7 (Wiring Data) of the Service Manual. The BSDs show the functional relationship of the electrical circuitry to any mechanical, or non-mechanical, inputs or outputs throughout the machine. Inputs and outputs such as motor drive, mechanical linkages, operator actions, and air flow are shown. The BSDs will provide an overall view of how the entire subsystem, such as ADF, works.

It should be noted that the BSDs no longer contain an Input Power Block referring to Chain 1. It will be necessary to refer to the Wirenets in order to trace a wire back to its source.

# Symbology

The following reference symbols are used throughout the documentation.

## Warnings, Cautions, and Notes

Warnings, Cautions, and Notes will be found throughout the Service Documentation. The words **WARNING** or **CAUTION** may be listed on an illustration when the specific component associated with the potential hazard is pointed out; however, the message of the **WARNING** or **CAUTION** is always located in the text. Their definitions are as follows:

### WARNING

**A Warning is used whenever an operating or maintenance procedure, a practice, condition, or statement, if not strictly observed, could result in personal injury.**

**CAUTION**

*A Caution is used whenever an operating or maintenance procedure, a practice, condition, or statement, if not strictly observed, could result in damage to the equipment.*

***NOTE:*** *A Note is used whenever it is necessary to highlight an operating or maintenance procedure, practice, condition, or statement.*

## Flags

The Flag symbol indicates a reference point into a Circuit Diagram from a RAP. Instructions will be given to check for an open circuit, a short circuit, or an intermittent condition.

## Note

This symbol refers to notes which are found on the same page as the Circuit Diagram.

## Parts List

In this symbol, example (PL2.1), refers to the Parts List on which the part can be found.

## Adjustments

The adjustment symbol refers to an procedure in the Adjustment section of this Manual.

## Test Points, Test Stakes, Test Holes

This symbol is used to indicate that a test point, test stake, or test hole is available for accessing a signal line. The prefix before the identification number indicates whether the access is a test point (TP), a test stake (TS), or a test hole (TH).

## Bracket

The bracket symbol indicates a Component Control Code selection in a Diagnostic Program.

## Machine Safety Icons

The following safety icons are displayed on the machine:

### WARNING

**The Phaser 790/Dc 2006 contains an invisible laser. There is no visual indication that the laser beam is present. During servicing, the machine is a Class 3B product because of the invisible laser. the laser beam could cause eye damage if looked at directly. Service procedures must be followed exactly as written without change. The service representative must observe the established local laser safety precautions when servicing the machine. Do not place tools with a reflective surface in the area of the Charge Corotron or the ROS opening. Do not look in the area of the ROS window if the power is On and the laser is energized.**

**The following symbol and statement appear on a label in the machine. The symbol by itself, or the symbol and the statement may also appear in the service documentation and in the training program. When this symbol appears, the service representative is warned that conditions exist that could result in exposure to the laser beam.**

### WARNING

**Do not try to bypass any laser interlocks for any reason. Permanent eye damage could result if the laser is accidentally directed into your eye.**

**Figure 1 Laser Hazard Symbol**

Laser Hazard Statement

DANGER INVISIBLE LASER RADIATION WHEN OPEN. AVOID DIRECT EXPOSURE TO BEAM.

**CAUTION**

*The use of controls or adjustments other than those specified in the Laser Safety Training Program may result in an exposure to dangerous laser radiation.*

For additional information, review the Laser Safety Training program.

An arrow points to the location to install, to gain access to, or to release an object.

This symbol indicates that a surface can be hot. Use caution when reaching in the machine to avoid touching the hot surfaces.

Danger label indicates where electrical currents exist when the machine is closed and operating. Use caution when reaching in the machine.

These symbols indicate components that may be damaged by Electrostatic Discharge (ESD).

## Electrostatic Discharge (ESD) Field Service Kit

The purpose of the ESD Protection Program is to preserve the inherent reliability and quality of electronic components that are handled by the Field Service Personnel. This program is being implemented now as a direct result of advances in microcircuitry technology, as well as a new acknowledgment of the magnitude of the ESD problem in the electronics industry today.

This program will reduce Field Service costs that are charged to PWB failures. Ninety percent of all PWB failures that are ESD related do not occur immediately. Using the ESD Field Service Kit will eliminate these delayed failures and intermittent problems caused by ESD. This will improve product reliability and reduce callbacks.

The ESD Field Service Kit should be used whenever Printed Wiring Boards or ESD sensitive components are being handled. This includes activities like replacing or reseating of circuit boards or connectors. The kit should also be used in order to prevent additional damage when circuit boards are returned for repair.

The instructions for using the ESD Field Service Kit can be found in ESD Field Service Kit Usage in the General Procedures section of the Service Documentation.

## Signal Nomenclature

Refer to Figure 2 for an example of Signal Nomenclature.

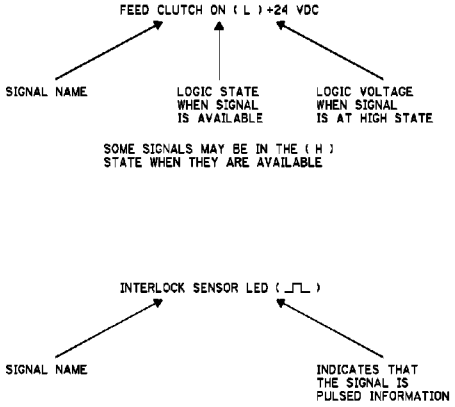
FEED CLUTCH ON ( L ) +24 VDC
SIGNAL NAME
LOGIC STATE WHEN SIGNAL IS AVAILABLE
LOGIC VOLTAGE WHEN SIGNAL IS AT HIGH STATE
SOME SIGNALS MAY BE IN THE ( H ) STATE WHEN THEY ARE AVAILABLE
INTERLOCK SENSOR LED ( _⊓_ )
SIGNAL NAME
INDICATES THAT THE SIGNAL IS PULSED INFORMATION
T700002A-RAP

**Figure 2 Signal Nomenclature**

## Voltage Measurement and Specifications

Measurements of DC voltage must be made with reference to the specified DC Common, unless some other point is referenced in a diagnostic procedure. All measurements of AC voltage should be made with respect to the adjacent return or ACN wire.

**Table 1 Voltage Measurement and Specifications**

| VOLTAGE | SPECIFICATION |
|---|---|
| INPUT POWER 220 V | 198 VAC TO 242 VAC |
| INPUT POWER 100 V | 90 VAC TO 135 VAC |
| INPUT POWER 120 V | 90 VAC TO 135 VAC |
| +5 VDC | +4.75 VDC TO +5.25 VDC |
| +24 VDC | +23.37 VDC TO +27.06 VDC |

## Logic Voltage Levels

Measurements of logic levels must be made with reference to the specified DC Common, unless some other point is referenced in a diagnostic procedure.

**Table 2 Logic Levels**

| VOLTAGE | H/L SPECIFICATIONS |
|---|---|
| +5 VDC | H= +3.00 TO +5.25 VDC<br>L= 0.0 TO 0.8 VDC |
| +24 VDC | H= +23.37 TO +27.06 VDC<br>L= 0.0 TO 0.8 VDC |

## DC Voltage Measurements in RAPs

The RAPs have been designed so that when it is required to use the DMM to measure a DC voltage, the first test point listed is the location for the red (+) meter lead and the second test point is the location for the black meter lead. For example, the following statement may be found in a RAP:

**There is +5 VDC from TP7 to TP68.**

In this example, the red meter lead would be placed on TP7 and the black meter lead on TP68.

Another example of a statement found in a RAP might be:

**There is -15 VDC from TP21 to TP33.**

In this example, the red meter lead would be placed on TP21 and the black meter lead would be placed on TP33.

If a second test point is not given, it is assumed that the black meter lead may be attached to the copier frame.

# 1 Service Call Procedures


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# Service Call Procedures

## Service Strategy

The service strategy for the Phaser 790 Printer and the DC 2006 Copier/Printer is to run to failure. The Repair Analysis Procedures (RAPs) will be used to diagnose and repair any problems.

Problems that occur in the Basic Printer mode will be repaired before problems that occur when using the accessories.

Image quality problems should be repaired after all other problems are repaired.

## Service Call Procedures

The **Service Call Procedures** are a guide for performing any service on the Phaser 790 Printer and the DC 2006 Copier/Printer. The procedures are designed to be used with the Phaser 790 Printer and the DC 2006 Copier/Printer Service Manual. Perform each step in order.

### Initial Actions

The Initial Actions gather information about the condition of the machine and the problem that caused the service call.

### Call Flow

Call Flow summarizes the sequence of the Service Call Procedures.

### Cleaning Procedures

The cleaning procedures list what needs to be cleaned at each service call.

### Final Actions

The Final Actions will test the copier/printer and return it to the customer. Administrative activities are also performed in the Final Actions.

# Initial Actions Procedure

## Purpose

The purpose of the Initial Actions section of the Service Call Procedures is to determine the reason for the service call and to identify and organize the actions which must be performed.

## Procedure

1. Gather the information about the service call and the condition of the copier/printer.
   a. Question the operator(s). Ask about the location of the most recent paper jams. Ask about the image quality and the general performance of the copier/printer, including any unusual sounds or other indications (if applicable).
   b. Check that the power cords are in good condition, correctly plugged into the power source, and free from any defects that would be a safety hazard. Repair or replace the power cords as required. Check that the circuit breakers are not tripped.
   c. Ensure that all paper trays are loaded with paper.
   d. Inspect any rejected copies. Inquire as to, or otherwise determine, the paper quality and weight. The specified paper for optimum image quality for the Phaser 790 Printer is Hammermill Laser Print 24. The specified paper for optimum image quality for the DC 2006 Copier/Printer is 24# Xerox COLOR Xpressions or Colotech + 90 gms. Look for any damage to the copies, oil marks, image quality defects, or other indications of a problem.
   e. Record the billing meter readings.
   f. Check the Service Log for any recent activities that are related to the problem that caused the service call or any secondary problem.
2. Check the Image Quality by performing the Visual Calibration (GP 16).
   a. Run four copies of the 82E13030 Test Pattern.
   b. Check the image quality. If the customer has identified any Image Quality Defects or problems, go to the IQ1 Image Quality Entry RAP.
3. If there is a problem in the Basic Printer Mode, go to the Call Flow Procedure.
4. If there are no problems in the Basic Printer Mode, go to the Final Actions.

# Call Flow Procedure

This procedure should be performed at every service call.

## Procedure

**The copier/printer is capable of making a copy/print to the Output Tray.**

**Y N**

**The copier/printer is capable of making a copy/print to the Top Tray.**

**Y N**

**The problem is in the paper path.**

**Y N**

**A Fault Code or a message is constantly displayed.**

**Y N**

**The Display is blank or garbled.**

**Y N**

If one or more of the buttons or LEDs does not function, go to the 002-702 IOT Control Panel Button/LED RAP.

Go to the 002-701 Blank/Garbled IOT Display RAP.

If a fault code is displayed, go to the Fault Code RAP for the Fault Code that is displayed.
If a message is displayed, go to the Fault Message/RAP Cross-Reference in Section 2.

Check the paper path sensors for debris or damage. Check that paper is loaded in all trays correctly.

Check the paper path mechanical drives and rolls for contamination, glazing, wear, damage, or binding.

**The copier is capable of making a copy/print to the Top Tray.**

**Y N**

Check the paper path mechanical drives and rolls for contamination, glazing, wear, damage, or binding.

**A Fault Code or message is constantly displayed.**

**Y N**

**The problem is Image Quality.**

**Y N**

**The problem is in the ADF.**

**Y N**

**The problem is in the Scanner.**

**Y N**

**The problem is in the Sorter.**

**Y N**

**The problem is noise.**

**Y N**

The problem is intermittent. Go to the BSD and perform a resistance check of the wires in question. Gently pull on the wires to ensure that they are properly connected.

**A B C D E F**

Go to the area where the noise is being generated and troubleshoot that area.

If a sorter fault code is present, go to the RAP associated with that fault code.
If a sorter message is present, go to the Section 2, Fault Message/RAP Cross-Reference Table.

Check for mechanical binding.

Check the ADF Document Sensors for debris or damage.
Check that the document mechanical drives and feed rolls are free from wear, damage, contamination, and binding.

Check the paper path sensors for debris or damage. Check that paper is loaded in all trays correctly.
Check the paper path mechanical drives and rolls for contamination, glazing, wear, damage, or binding.
Go to the IQ1 Image Quality Entry RAP.

If a fault code is displayed, go to the Fault Code RAP for the Fault Code that is displayed.
If a message is displayed, go to the Fault Message/RAP Cross-Reference in Section 2.

**A B C D E F**

# Cleaning Procedures

## Purpose

The purpose is to provide cleaning procedures to be performed at every call.

## Procedure

**CAUTION**

*Do not use any solvents unless directed to do so by the Service Manual.*

**General Cleaning**

Use a dry lint free cloth or a lint free cloth moistened with water for all cleaning unless directed otherwise by the Service Manual. Wipe with a dry lint free cloth if a moistened cloth is used.

1. **Feed Components (Rolls and Pads)**

   Follow the General Cleaning procedure above.
2. **Dry Ink Dispense Units**

   Vacuum the Dry Ink Dispense units.
3. **Jam Sensors**

   Clean the sensors with a dry cotton swab.
4. **IBT Cleaning**

   Check the IBT Belt surface and wipe with a dry lint free cloth. If the surface is excessively dirty, replace the IBT Belt (PL 7.2).
5. **Fuser Components** (best cleaned when hot).

   Wipe with a lint free cloth.
6. **Scanner**
   a. Switch off the power and allow the Exposure Lamp to cool off.
   b. Using the optical Cleaning Cloth, clean the front and rear of the Document Glass, Document Cover, White Reference Strip, Reflector, and Mirror.
   c. Clean the Exposure Lamp with a clean cloth and Film Remover.
7. **ADF**

   Check the paper path for debris or damage. Clean the rolls with a clean cloth and Film Remover as required.
8. **Sorter**

   Check the paper path for debris or damage. Clean the Sorter with a dry lint free cloth.

# Final Actions

## Purpose

The intent of this procedure is to be used as a guide to follow at the end of every service call.

Procedure

1. Ensure that the exterior of the copier/printer and the adjacent area are clean. Use a dry cloth or a cloth moistened with water to clean the copier/printer. Do not use solvents.
2. Check the supply of consumables. Ensure that an adequate supply of consumables is available according to local operating procedures.
3. Conduct any operator training that is needed. Ensure that the operator understands that the VisualCal procedure in the Operator Manual should be used to adjust the colors. Ensure that the operator can perform the VisualCal procedure (reference the GP 16 Visual Calibration procedure).
4. Complete the Service Log.
5. Perform the following steps to make a copy of the Demonstration Original for the Customer:
   a. Load Paper in Tray 1 with 8-1/2 x 11 inch (A4) or 11 x 17 inch, 24# Xerox COLOR Xpressions or Colotech + 90 gms for the DC 2006 Copier/Printer, or Hammermill Laser Print 24 for the Phaser 790
   b. Place Test Pattern 82E13030 on the glass with the short edge of the test pattern registered to the left edge of the glass. Select Tray 1 and make a single copy.
   c. Print a Configuration Page (GP 14).
   d. Print a test page (for the printer only).
   e. Present the copies to the customer.
6. Issue copy credits as needed.
7. Discuss the service call with the customer to ensure that the customer understands what has been done and is satisfied with the results of the service call.

# 2 Status Indicator RAPs


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033-360/361/370/371 Memory Error RAP ..... 2-215
033-380/390 1394 Failure RAP ..... 2-216
033-921/922/930/934/935/936/937 IOT/IIT Communication RAP ..... 2-216
033-940/941/943/944/945 SCSI Error RAP ..... 2-217

# Fault Message/RAP Cross-Reference

***NOTE:*** *For all **ADF Jam** messages displayed on the Scanner Display, go to the 005-700 RAP.*

*For all **Scanner Error** messages displayed on the Scanner Display, which do not have an associated Fault Code RAP, go to the 006-703 RAP.*

*For all **System Error (093-XXX)** messages displayed on the Scanner Display, go to the 006-704 RAP.*

If the message on the IOT display contains a numeric fault code, go to the RAP for that code. To find the appropriate RAP for an unclearable message that does not contain a fault code, go to Table 1. Locate the message in column one, and go to the RAP listed in column two.

**Table 1**

| If this message is displayed | Go to this RAP |
|---|---|
| Check Loading of <tray> In Use | 007-707 Paper Length Mismatch RAP |
| Check Sorter Position | 011-700 Sorter Not In Correct Position RAP |
| Clear Jam In Area 1 | 008-700 Area 1 Jam RAP |
| Clear Jam In Area 2 | 008-701 Area 2 Jam RAP |
| Clear Jam In Area 3 | 008-702 Area 3 Jam RAP |
| Clear Jam In Area 4 | 008-703 Area 4 Jam RAP |
| Clear Jam In Area 5 | 010-700 Area 5 Jam RAP |
| Clear Jam In Area 6 | 008-704 Area 6 Jam RAP |
| Clear Jam In Duplex Tray | 008-707 Duplex Tray Jam RAP |
| Close Area 1 | 001-706 Area 1 Open RAP |
| Close Area 2 | 001-707 Area 2 Open RAP |
| Close Area 3 | 001-708 Area 3 Open RAP |
| Close Area 4 | 001-709 Area 4 Open RAP |
| Close Area 5 | 001-710 Area 5 Open RAP |
| Close Area 6 | 001-711 Area 6 Open RAP |
| Close Duplex Tray | 008-707 Duplex Tray Open RAP |
| Close Front Cover | 001-704 Front Cover Open RAP |
| Close Paper Tray 1 | 007-700 Tray 1 Open RAP |
| Close Paper Tray 2 | 007-701 Tray 2 Open RAP |
| Close Paper Tray 3 | 007-702 Tray 3 Open RAP |
| Close Sorter Cover | 011-702 Sorter Top Cover Open RAP |
| Empty Sorter Bins | 011-701 Sorter Bin Jam RAP |
| Empty Stacker Tray | 011-705 Full Sensor RAP |
| Empty Top Tray | 008-705 Top Tray Full RAP |
| Install <color> Ink Cartridge | 009-700 Toner Cartridge Detached RAP |
| Install Copy/Print Cartridge | 003-701 Copy/Print Cartridge Error RAP |
| Install Waste Container | 009-703 Waste Container Detached RAP |
| Jam in Sorter | 011-701 Sorter Bin Jam RAP |
| Load <size> | 007-711 Tray 1 Paper Size Not Detected RAP<br>007-712 Tray 2 Paper Size Not Detected RAP<br>007-713 Tray 3 Paper Size Not Detected RAP |

**Table 1**

| If this message is displayed | Go to this RAP |
|---|---|
| Load <size> In Bypass Tray | 007-706 Bypass Tray Empty RAP |
| Load <size> In Tray 1 | 007-703 Tray 1 Empty RAP |
| Load <size> In Tray 2 | 007-704 Tray 2 Empty RAP |
| Load <size> In Tray 3 | 007-705 Tray 3 Empty RAP |
| Order Copy/Print Cartridge | 003-701 Copy/Print Cartridge Error RAP |
| Reload <size> in Bypass Tray | 007-708 Bypass Tray Lift RAP |
| Reload <size> in Tray 2 | 007-709 Tray 2 Lift Up RAP |
| Reload <size> In Tray 3 | 007-710 Tray 3 Lift Up RAP |
| Replace Copy/Print Cartridge | 003-701 Copy/Print Cartridge Error RAP |
| Waste Container Full | 009-702 Waste Container Full RAP |

# 001-701 AC Power RAP

## Initial Actions

- Ensure AC Power is available at the wall receptacle.
- Ensure the Power Cord is good. Replace the Power Cord if it is defective (PL 11.1).

## Procedure

Switch off the power. Remove the Rear Cover. Switch on the power. If AC Power is not measured at J34-2 to terminal N on the Low Voltage Power Supply, replace the Low Voltage Power Supply (PL 11.1).

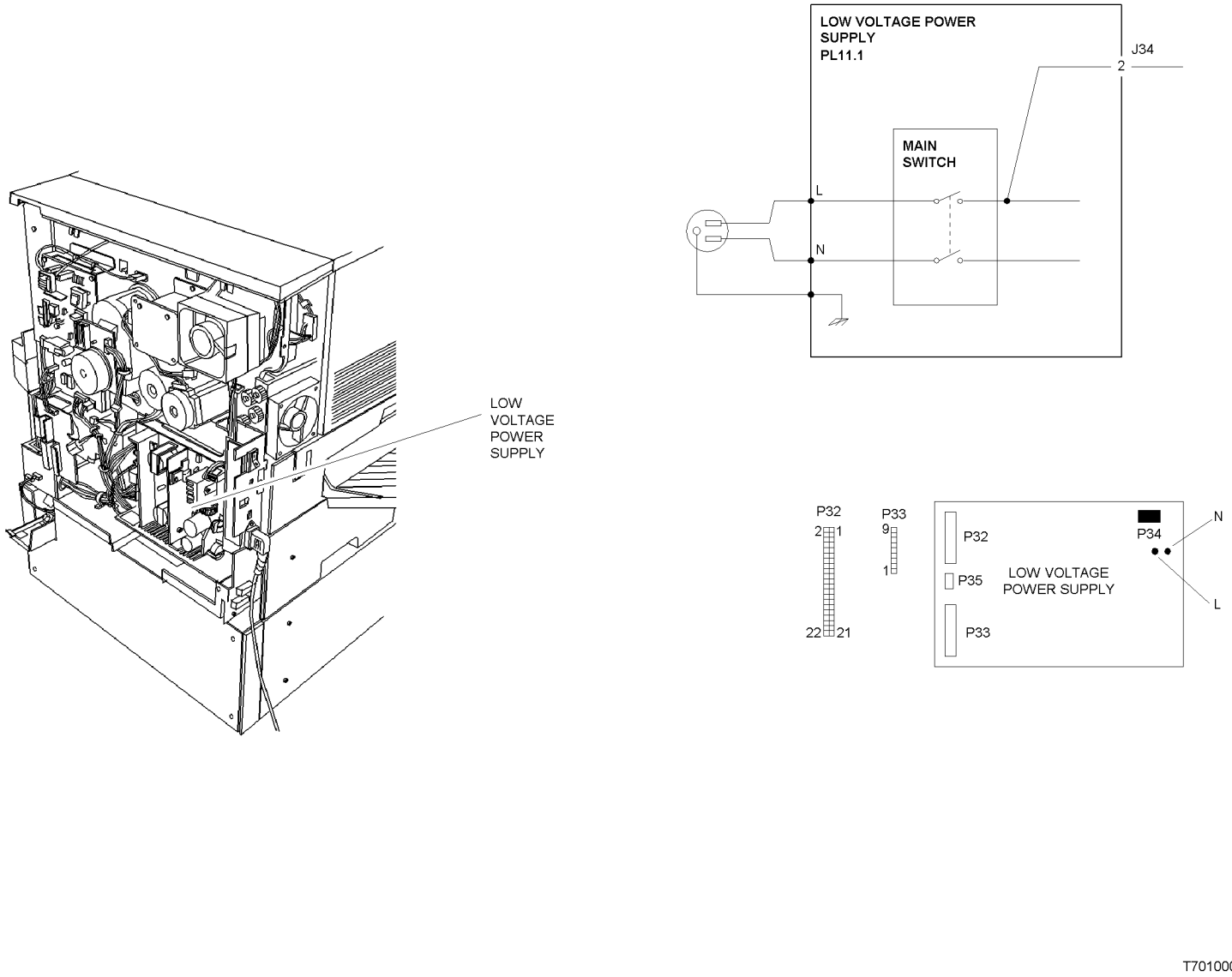



**Figure 1 001-701 Circuit Diagram**

# 001-702 +5 VDC Power RAP

## Initial Actions

- Ensure AC Power is available at the wall receptacle.
- Ensure the Power Cord is good. Replace the Power Cord if it is defective (PL 11.1).

## Procedure

Switch off the power. Remove the Rear Cover. Switch on the power. **+5 VDC is measured between J33-1 and J33-4.**

**Y N**

Switch off the power. Disconnect J32 and J33 from the Low Voltage Power Supply. Switch on the power. **+5 VDC is measured between P33-1 and P33-4 on the Low Voltage Power Supply.**

**Y N**

Replace the Low Voltage Power Supply (PL 11.1).

Switch off the power. Reconnect J32 to the Low Voltage Power Supply. Switch on the power. **+5 VDC is measured between P33-1 and P33-4 on the Low Voltage Power Supply.**

**Y N**

Go to Flag 2. Refer to the +5 VDC Wirenet to troubleshoot a short circuit in the wires from P32.

Go to Flag 1. Refer to the +5 VDC Wirenet to troubleshoot a short circuit in the wires from P33.

The Low Voltage Power Supply appears to be operating correctly.

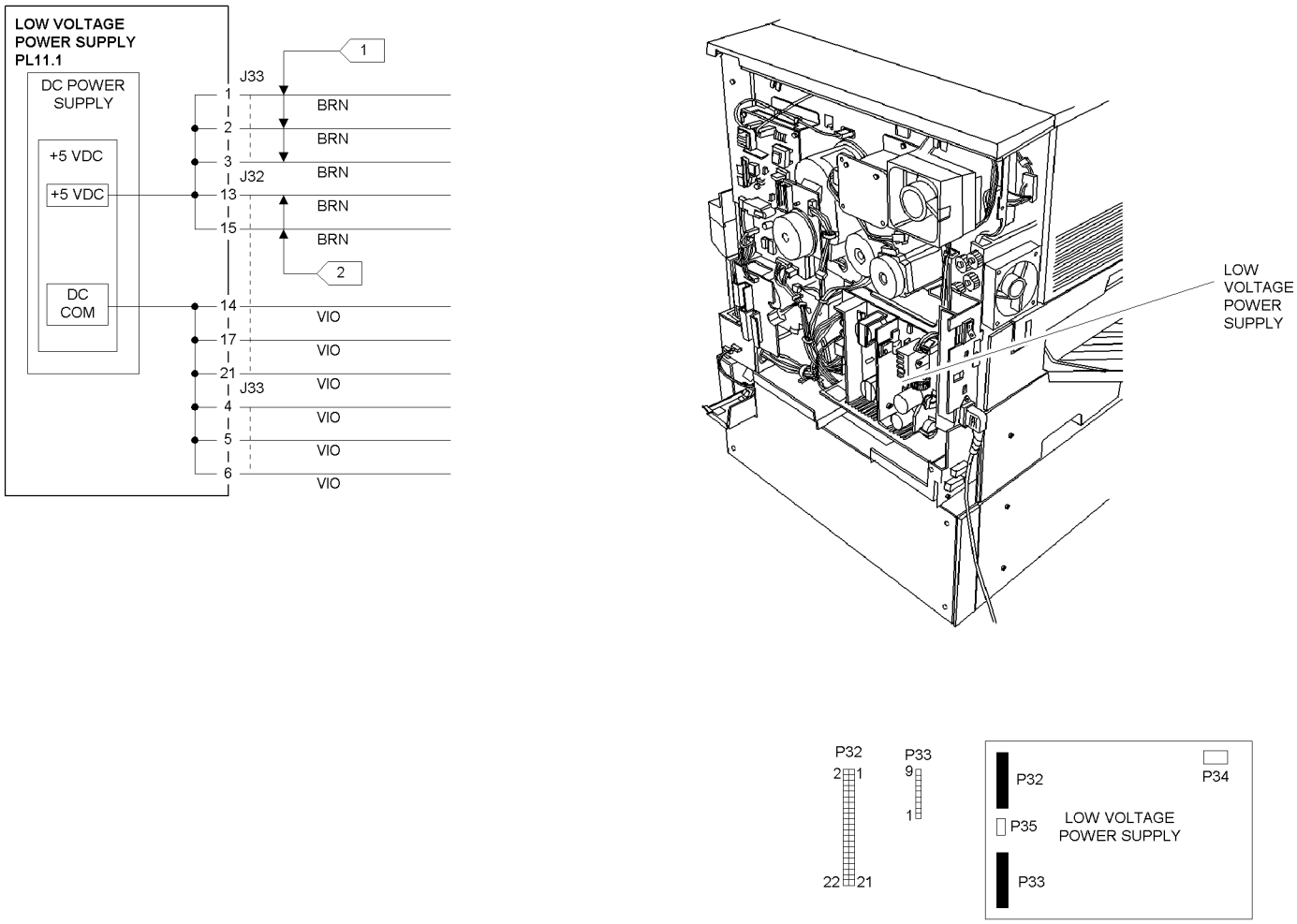



**Figure 1 001-702 Circuit Diagram**

# 001-703 +24 VDC Interlocked Power RAP

## Initial Actions

Ensure the Left Front Cover, the Registration/Bypass Tray Drawer, and the Main Fuser Assembly are closed and in the correct position.

Ensure that the actuator for the Left Front Cover Interlock is not broken.

## Procedure

Switch off the power. Remove the Rear Cover. Switch on the power. **+24 VDC is measured between J32-5 on the Low Voltage Power Supply and machine frame.**

**Y N**

**+5.0 VDC is measured between J32-18 and machine frame.**

**Y N**

**Approximately +4.4 VDC is measured between J32-16 and machine frame.**

**Y N**

Go to Flag 6. Check the wire for an open circuit. If the wire is good, replace the MCU PWB (PL 11.2).

Replace the Low Voltage Power Supply (PL 11.1).

**+5.0 VDC is measured between J33-9 on the Low Voltage Power Supply and machine frame.**

**Y N**

**+5.0 VDC is measured between J199-1 (brown wire) on the Left Front Cover Interlock and machine frame.**

**Y N**

Go to Flag 5. Check the wire for an open circuit.

**+5.0 VDC is measured between J198-1 (yellow wire) on the Left Front Cover Interlock and machine frame.**

**Y N**

Replace the Left Front Cover Interlock (PL 11.1).

Check the following:

- Go to Flag 2, Flag 3, and Flag 4. Check the wires for an open circuit.
- If the wires are good, check the connectors between the Low Voltage Power Supply and the Left Front Cover Interlock for bent or broken pins or for damaged connectors (P/J70, P/J71, P/J97, and P/J91).

Replace the Low Voltage Power Supply (PL 11.1).

The Low Voltage Power Supply appears to be operating correctly.

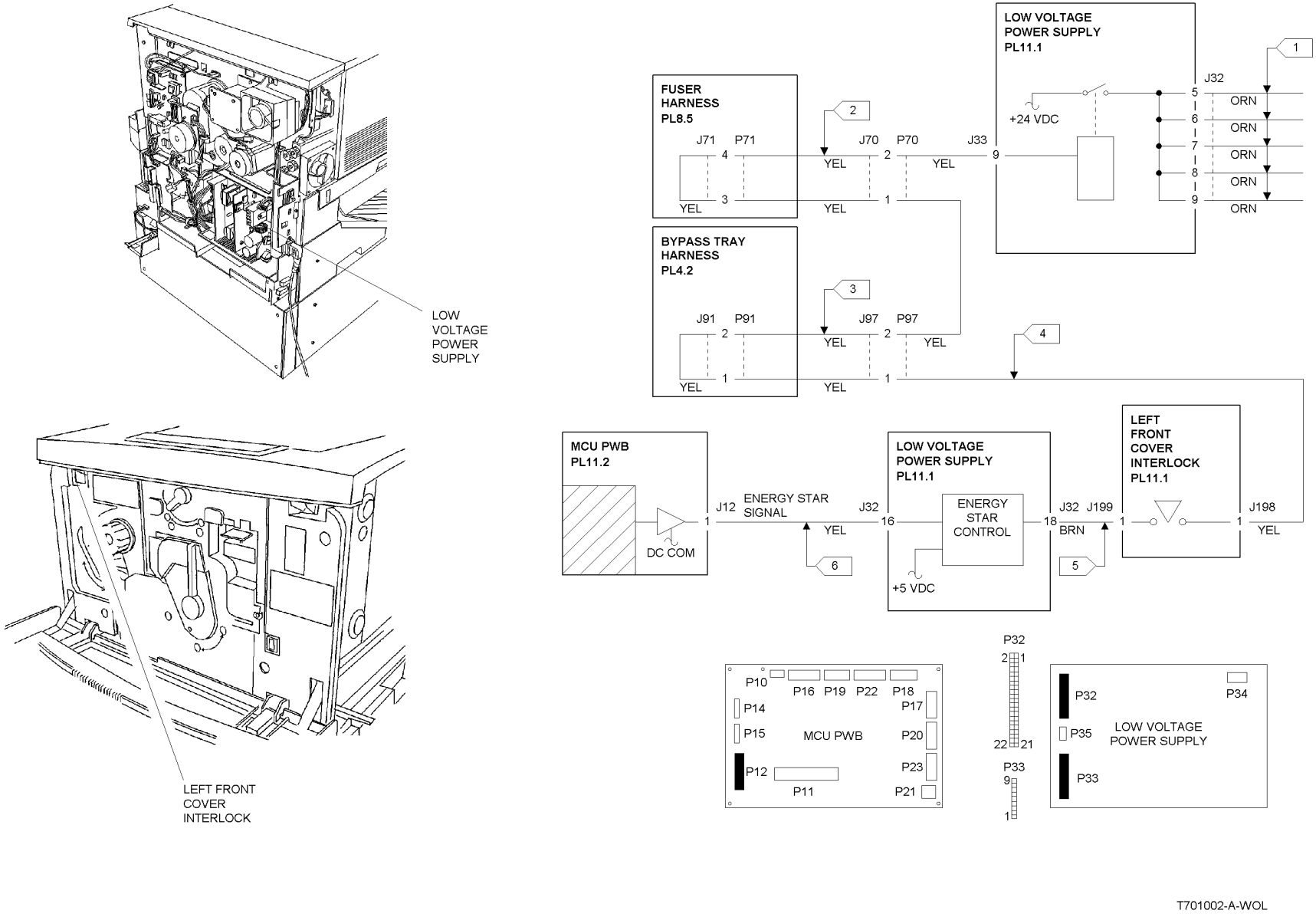



**Figure 1 001-703 Circuit Diagram**

# 001-704 Front Cover Open RAP

## Initial Actions

Ensure the Right Front Cover is closed and that the actuator for the interlock is not damaged.

## Procedure

Access the Digital Input (DI) test from the Control Panel. Enter code [73]. Press the **Item/Enter** button. **The display indicates 0.**

**Y** **N**

Go to Flag 1 and Flag 2 and check the wires for an open circuit. If the wires are good, replace the Right Front Cover Interlock (PL 11.2). If the problem continues, replace the MCU PWB (PL 11.2).

The problem may be intermittent. Go to Flag 1 and Flag 2 and check for loose or damaged connections or damaged wires. If the problem persists, replace the Right Front Cover Interlock (PL 11.2). If the problem continues, replace the MCU PWB (PL 11.2).

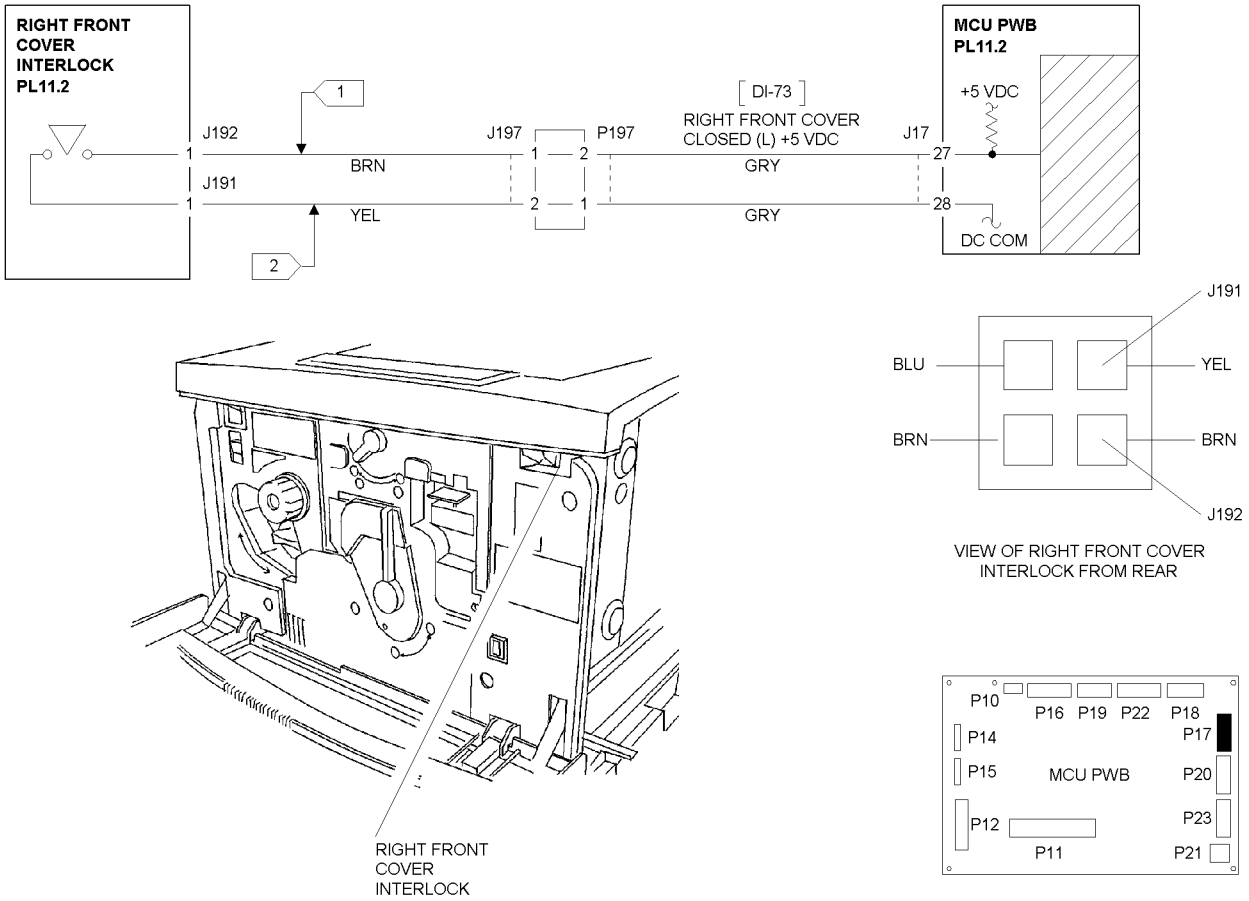



**Figure 1 001-704 Circuit Diagram**

# 001-705 ROS +5 VDC Switched Voltage RAP

## Initial Actions

Check the following:

- Ensure the Right Front Cover is closed.
- Ensure the Top Cover is correctly positioned and is actuating the Top Cover Interlock.

## Procedure

Switch off the power. Remove the Rear Cover. Switch on the power. **+5 VDC is measured between J32-22 on the Low Voltage Power Supply and machine frame.**

**Y N**

Replace the Low Voltage Power Supply (PL 11.1).

Remove the Top Cover. Actuate the Top Cover Interlock. **+5 VDC is measured between J125-1 on the ROS Assembly and machine frame.**

**Y N**

**With the Top Cover Interlock still actuated, +5 VDC is measured between FS2 (blue wire) on the Top Cover Interlock and machine frame.**

**Y N**

**+5 VDC is measured between FS1 (blue wire) on the Top Cover Interlock and machine frame.**

**Y N**

**+5 VDC is measured between J194-1 (blue wire) on the Right Front Cover Interlock and machine frame.**

**Y N**

**+5 VDC is measured between J193-1 (brown wire) on the Right Front Cover Interlock and machine frame.**

**Y N**

Go to Flag 3. Check the wire for an open circuit.

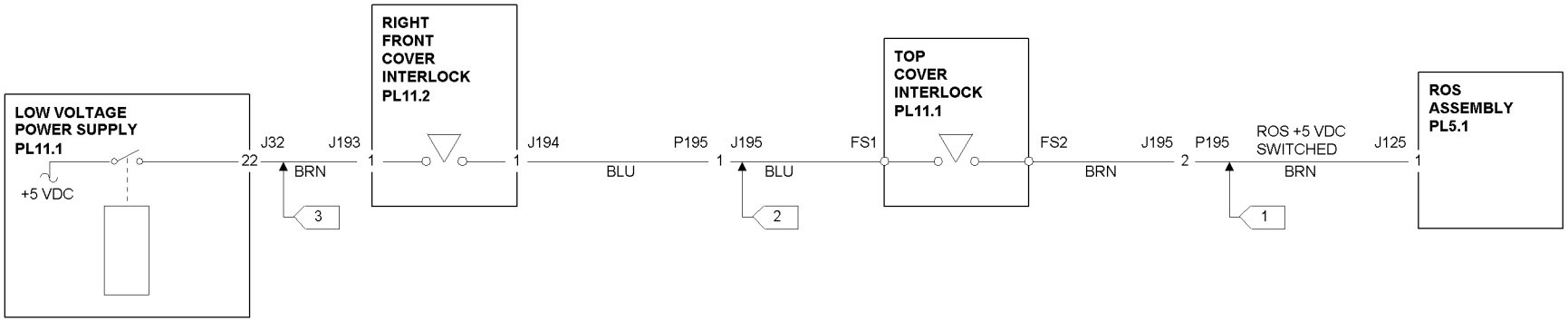
Replace the Right Front Cover Interlock (PL 11.2).

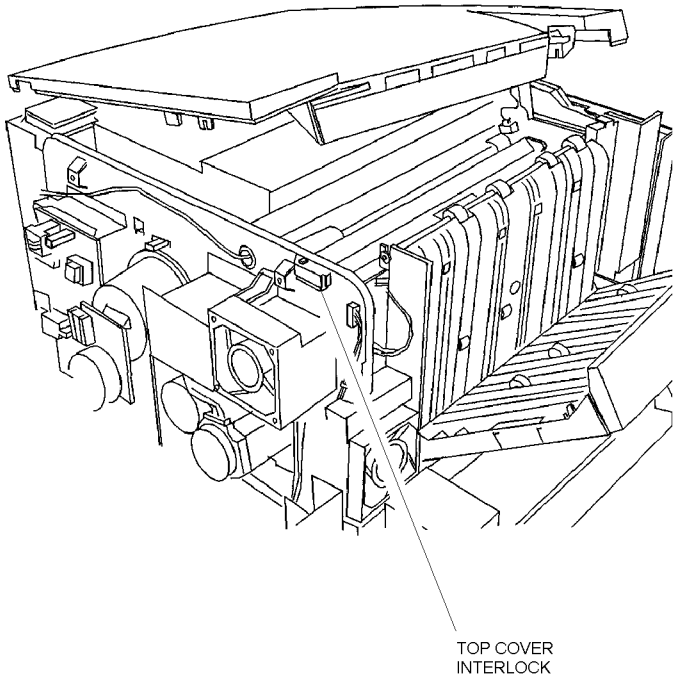
Go to Flag 2. Check the wire for an open circuit.

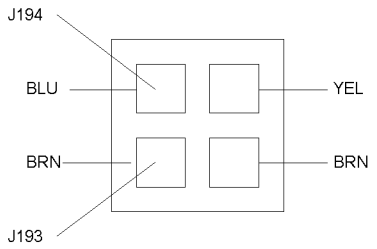
Replace the Top Cover Interlock (PL 11.1).

Go to Flag 1. Check the wire for an open circuit.

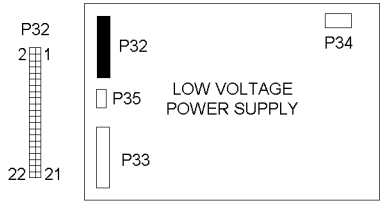
The ROS +5 VDC Switched circuit appears to be functioning correctly.




VIEW OF RIGHT FRONT COVER INTERLOCK FROM REAR




T701004-A-WOL

**Figure 1 001-705 Circuit Diagram**

# 001-706 Area 1 Open RAP

## Initial Actions

Perform the following:

- Check the actuator for the Bypass Tray Interlock. Ensure it is not broken or damaged.
- Ensure the Bypass Tray is closed and is in the operating position.

## Procedure

Access the Digital Input (DI) test from the Control Panel. Enter code [77]. Press the **Item/Enter** button. **The display indicates 0.**

**Y N**

Go to Flag 1 and Flag 2. Check the wires for an open circuit. If the wires are good, replace the Bypass Tray Interlock (PL 4.1). If the problem continues, replace the MCU PWB (PL 11.2).

The problem may be intermittent. Go to Flag 1 and Flag 2 and check for loose or damaged connections or damaged wires. If the problem persists, replace the Bypass Tray Interlock (PL 4.1). If the problem continues, replace the MCU PWB (PL 11.2).

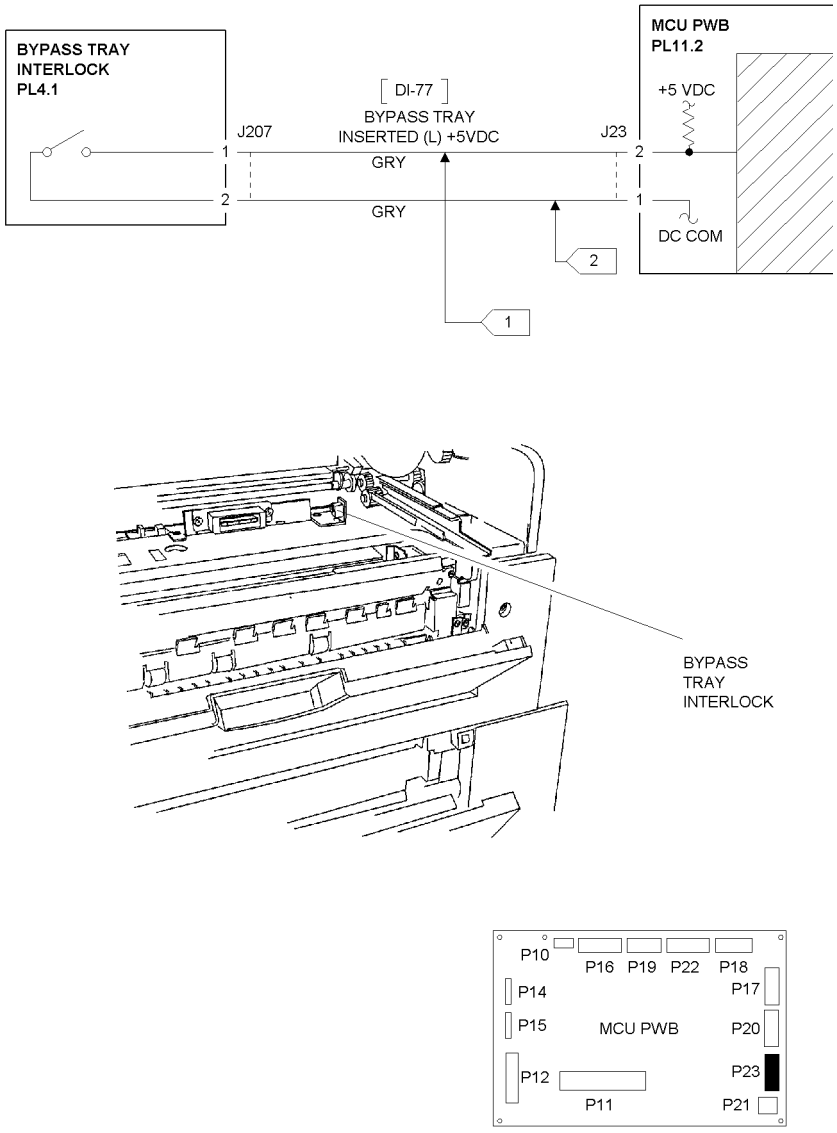



**Figure 1 001-706 Circuit Diagram**

# 001-707 Area 2 Open RAP

## Initial Actions

Perform the following:

- Check the actuator for the Turn Chute Interlock. Ensure it is not broken or damaged.
- Ensure the Turn Chute is closed.

## Procedure

Access the Digital Input (DI) test from the Control Panel. Enter code [84]. Press the **Item/Enter** button. **The display indicates 0.**

**Y N**

Go to Flag 1 and Flag 2. Check the wires for an open circuit. If the wires are good, replace the Turn Chute Interlock (PL 3.3). If the problem continues, replace the MCU PWB (PL 11.2).

The problem may be intermittent. Go to Flag 1 and Flag 2 and check for loose or damaged connections or damaged wires. If the problem persists, replace the Turn Chute Interlock (PL 3.3). If the problem continues, replace the MCU PWB (PL 11.2).

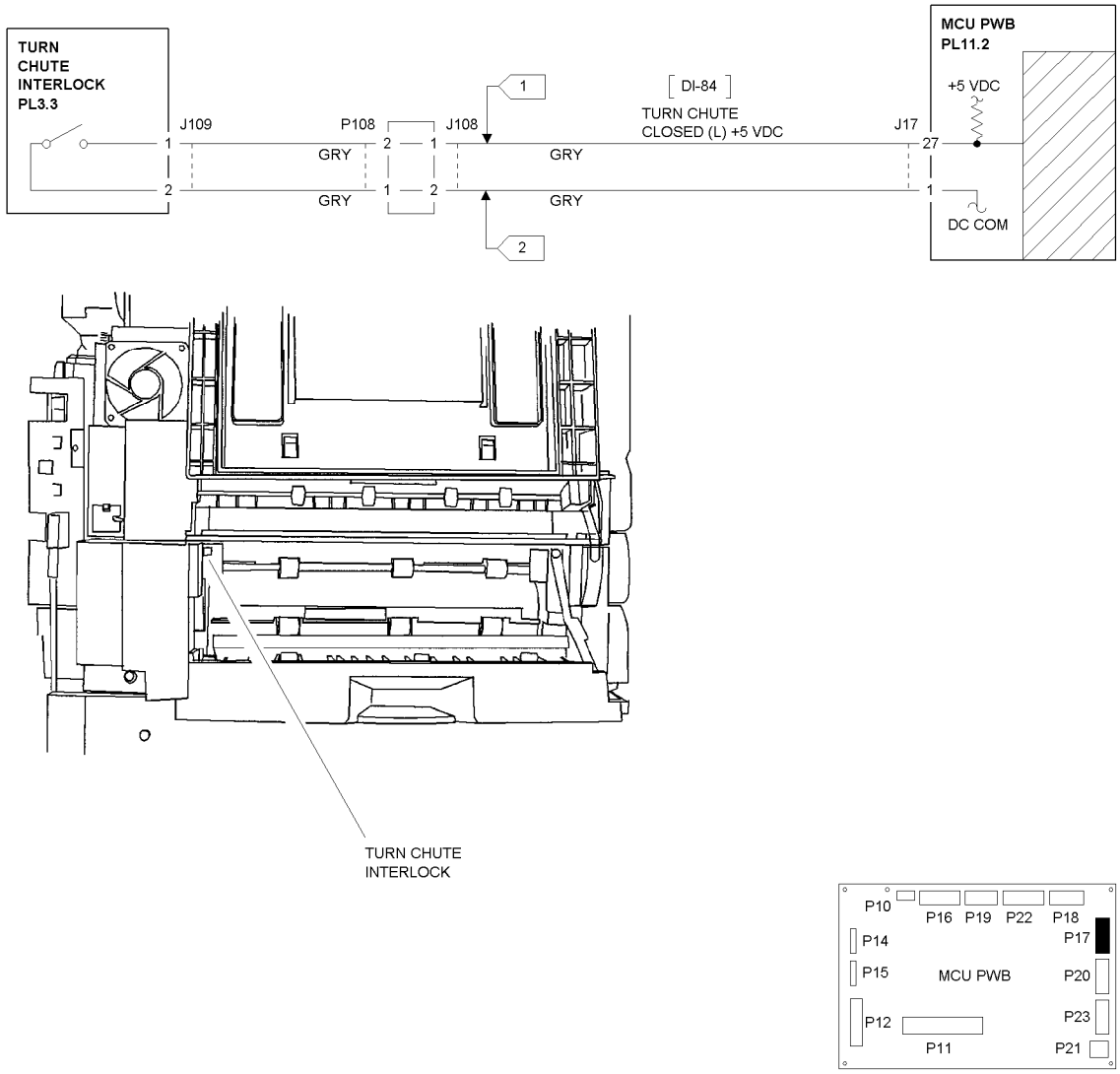



**Figure 1 001-707 Circuit Diagram**

# 001-708 Area 3 Open RAP

## Initial Actions

Perform the following:

- Ensure the Right Cover is fully closed.
- Check the actuators for both Feeder Right Cover Switches. Ensure they are not broken or damaged.

## Procedure

Access the Digital Input (DI) test from the Control Panel. Enter code [C0]. Press the **Item/Enter** button. **The display indicates 0.**

**Y N**

Remove the Feeder Rear Cover (PL 13.2). **Less than +1.0 VDC is measured between J217-8 on the Feeder PWB and machine frame.**

**Y N**

Go to Flag 1. Check the wires for an open circuit. If the wires are good, replace the Feeder Right Cover Interlock 1 (PL 13.2).

Replace the Feeder PWB (PL 13.4).

Enter code [C1]. Press the **Item/Enter** button. **The display indicates 0.**

**Y N**

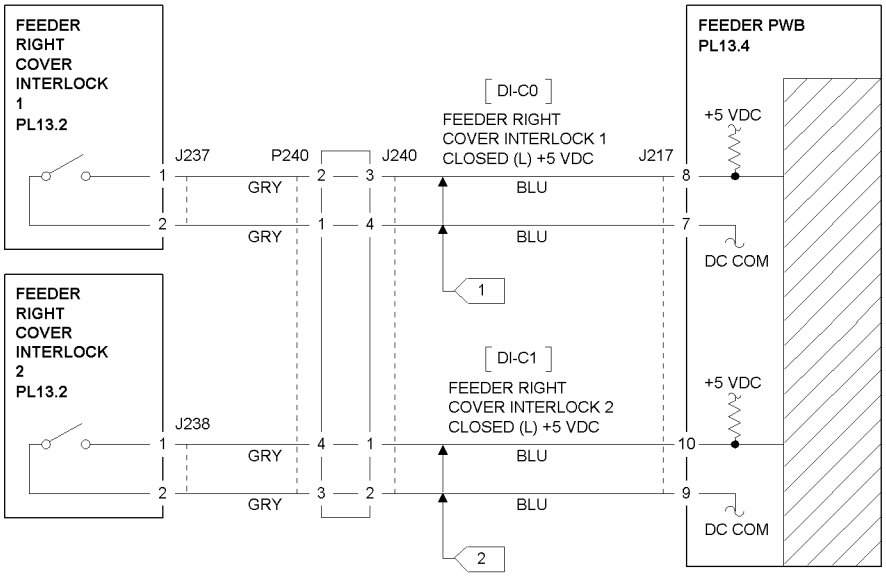
Remove the Feeder Rear Cover. **Less than +1.0 VDC is measured between J217-10 on the Feeder PWB and machine frame.**

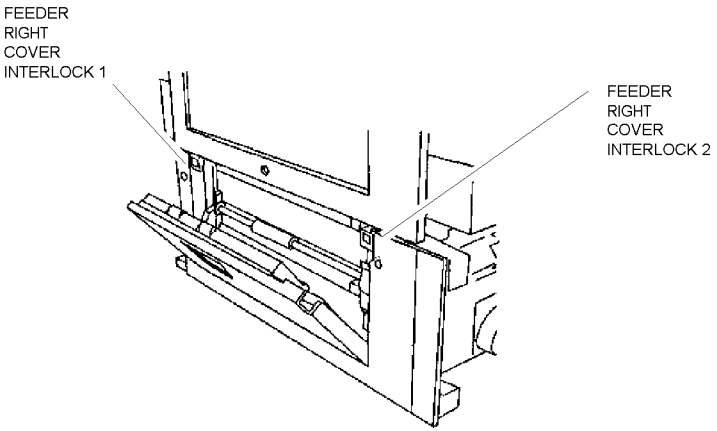
**Y N**

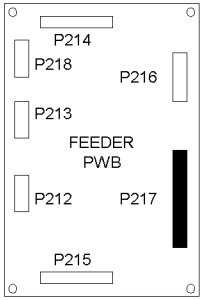
Go to Flag 2. Check the wires for an open circuit. If the wires are good, replace the Feeder Right Cover Interlock 2 (PL 13.2).

Replace the Feeder PWB (PL 13.4).

The problem may be intermittent. Go to Figure 1 and check for loose or damaged connections or damaged wires. If the problem persists, replace the Feeder Right Cover Interlock 1 and 2 (PL 13.2). If the problem continues, replace the Feeder PWB (PL 13.4).




T701008-A-WOL

**Figure 1 001-708 Circuit Diagram**

# 001-709 Area 4 Open RAP

## Initial Actions

Perform the following:

- Check the actuator for the Exit Chute Interlock. Ensure it is not broken or damaged.
- Ensure the Exit Chute is closed.

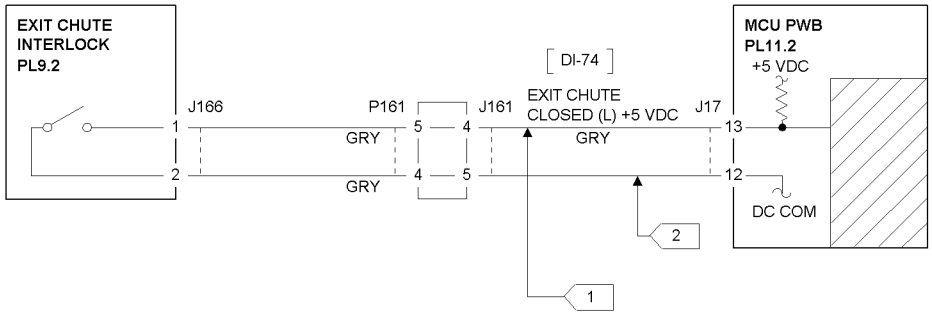
## Procedure

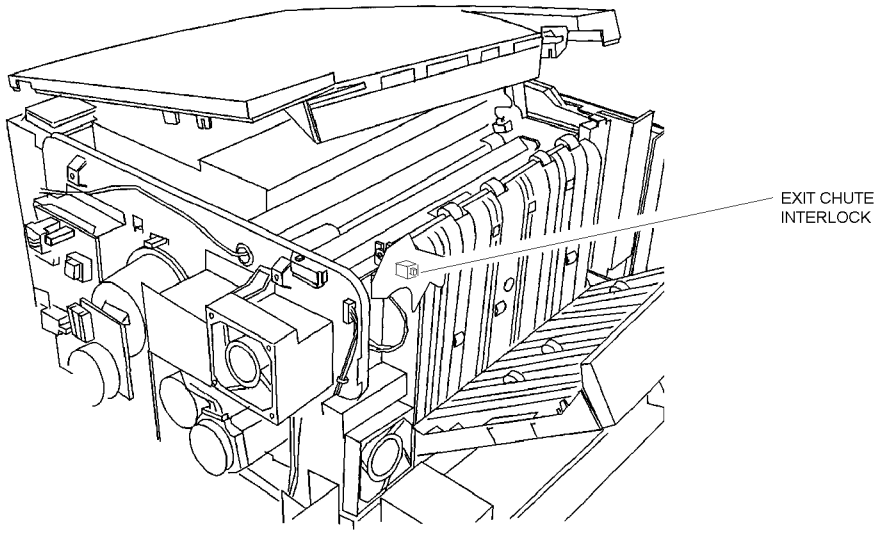
Access the Digital Input (DI) test from the Control Panel. Enter code [74]. Press the **Item/Enter** button. **The display indicates 0.**

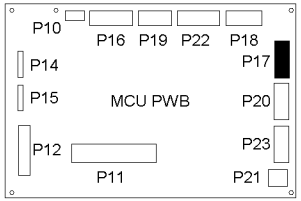
**Y N**

Go to Flag 1 and Flag 2. Check the wires for an open circuit. If the wires are good, replace the Exit Chute Interlock (PL 9.2). If the problem continues, replace the MCU PWB (PL 11.2).

The problem may be intermittent. Go to Flag 1 and Flag 2 and check for loose or damaged connections or damaged wires. If the problem persists, replace the Exit Chute Interlock (PL 9.2). If the problem continues, replace the MCU PWB (PL 11.2).




T701006-A-WOL

**Figure 1 001-709 Circuit Diagram**

# 001-710 Area 5 Open RAP

The Control Logic detected that the Fuser Drawer in not fully closed.

## Initial Actions

Perform the following:

- Ensure that the Fuser Assembly is fully closed.
- Ensure that the Fuser Assembly is mounted correctly and securely. Repair any obvious defects.

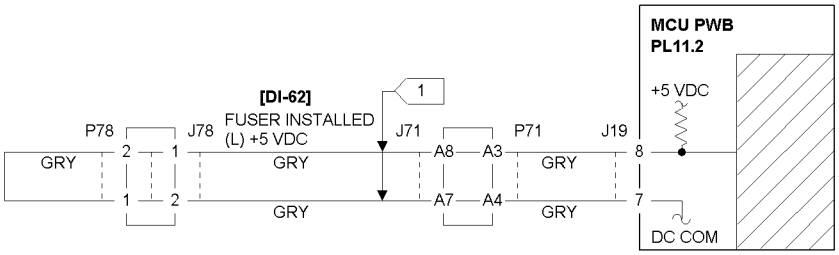
## Procedure

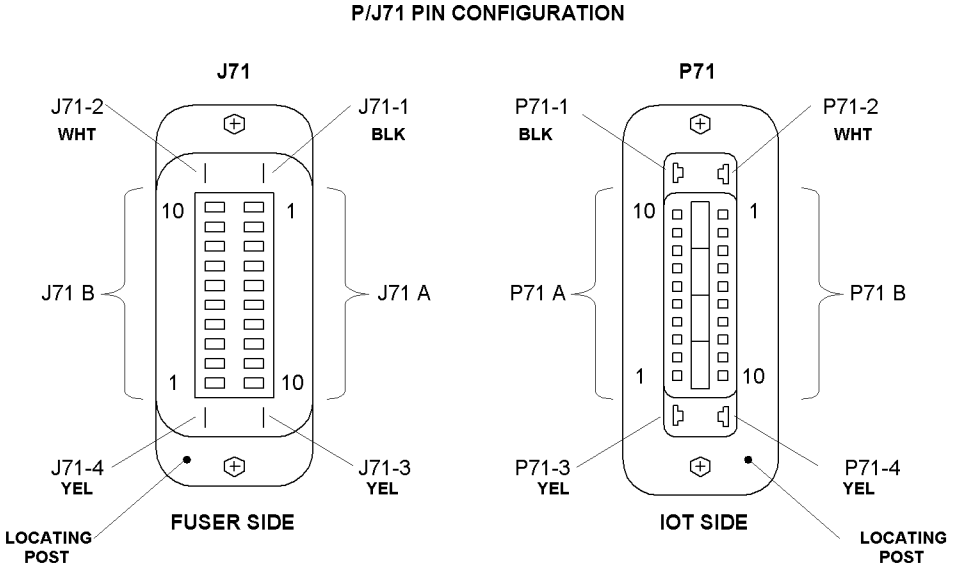
Access the Digital Input (DI) test from the Control Panel. Enter code [62]. Press the **Item/Enter** button. **The display indicates 0.**

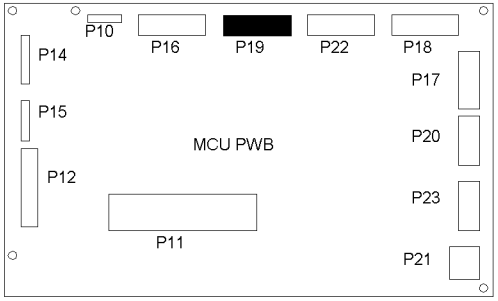
**Y N**

Go to Flag 1 and check the wire for a open circuit. If the wire is good, replace the MCU PWB (PL 11.2).

The problem may be intermittent. Go to Flag 1 and check for loose or damaged connections or damaged wires. If the problem persists, replace the MCU PWB (PL 11.2).




T701010-A-WOL

**Figure 1 001-710 Circuit Diagram**

# 001-711 Area 6 Open RAP

The Control Logic has detected that area 6 is open.

## Initial Actions

Perform the following:

- Ensure that the Inverter Chute (PL 15.5) is fully closed.
- Ensure that the actuator for the CAB Interlock is not broken. Repair any obvious defects.

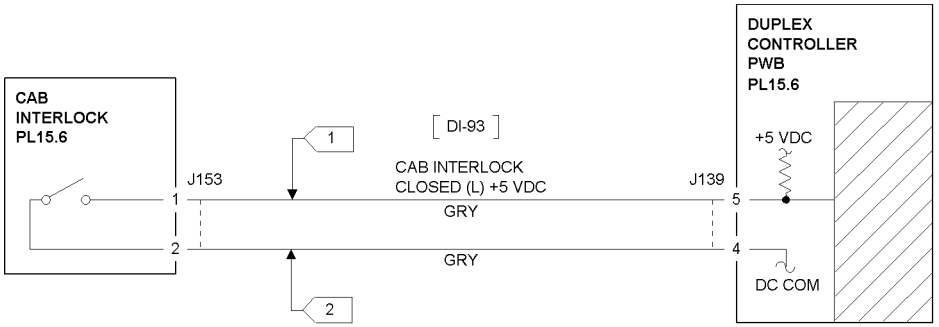
## Procedure

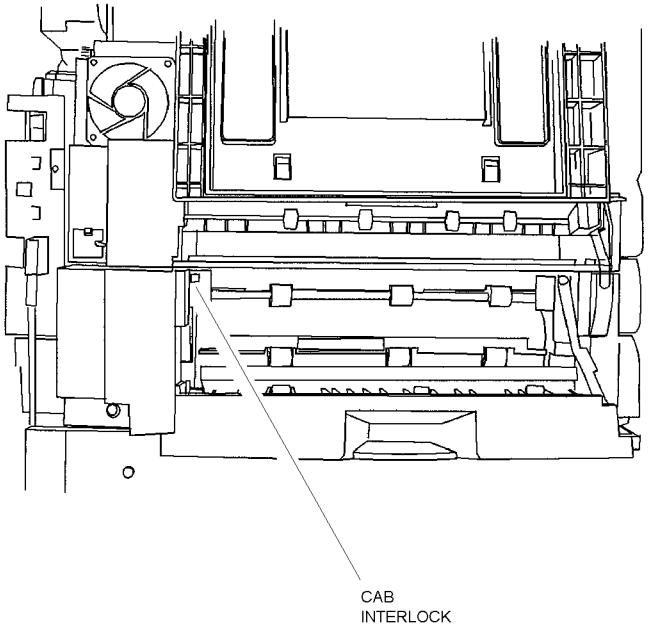
Access the Digital Input (DI) test from the Control Panel. Enter code [93]. Press the **Item/Enter** button. **The display indicates 0.**

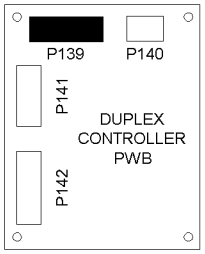
**Y N**

Go to Flag 1 and Flag 2. Check the wires for a open circuit. If the wires are good, replace the Duplex Controller PWB (PL 15.6).

The problem may be intermittent. Go to Flag 1 and Flag 2 and check for loose or damaged connections or damaged wires. If the problem persists, replace the replace the Duplex Controller PWB (PL 15.6).




T701009-A-WOL

**Figure 1 001-711 Circuit Diagram**

# 001-712 IIT DC Power RAP

## Initial Actions

Ensure AC power is available at the wall outlet.

Ensure that the AC Power Cord is securely connected to the system.

## Procedure

Remove the Rear Cover (REP 6.4) from the IIT. Check the following voltages at P91 (Figure 1) on the IIT LVPS:

- P91-1 (Orange Wire) for +24 VDC
- P91-2 (Orange Wire) for +24 VDC
- P91-3 (Gray Wire) for +5 VDC
- P91-4 (Gray Wire) for +3.5 VDC

**All of the voltage are available.**

**Y** **N**

**All of the voltages are missing.**

**Y** **N**

Check the pins on connector P/J91. Look for loose or damaged pins. If the connector is OK, replace the IIT LVPS (PL 16.1).

Check the Fuse (Figure 1) on the IIT LVPS. **The Fuse is defective.**

**Y** **N**

AC line voltage is available between JN1-1 and JN1-2 (**Figure 1**).

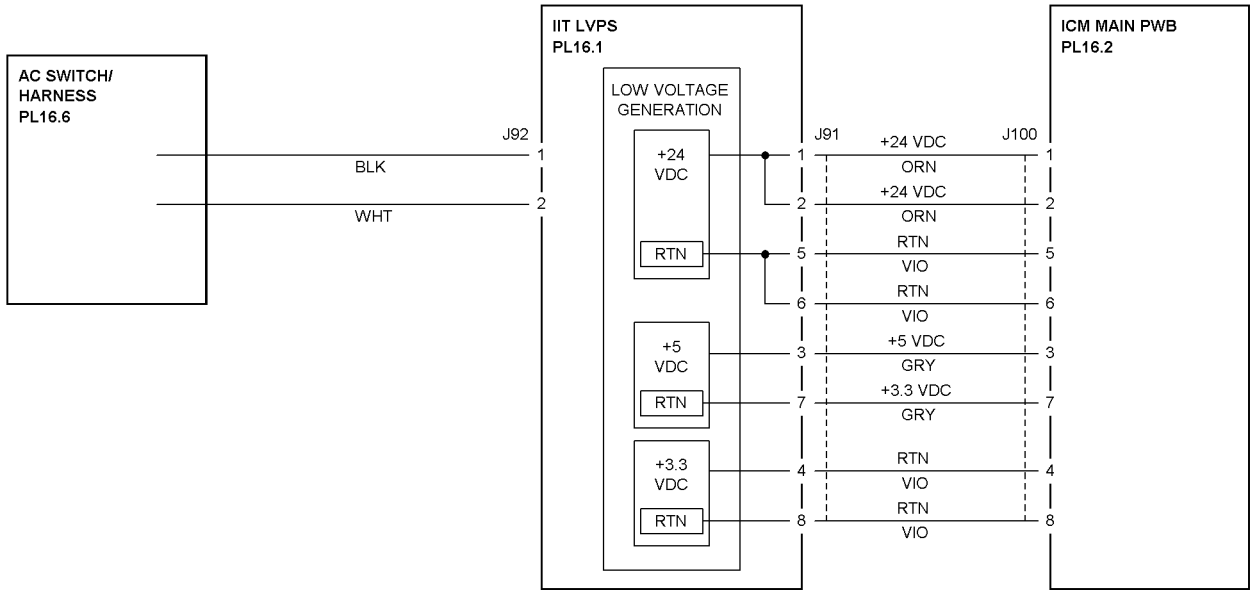
**Y** **N**

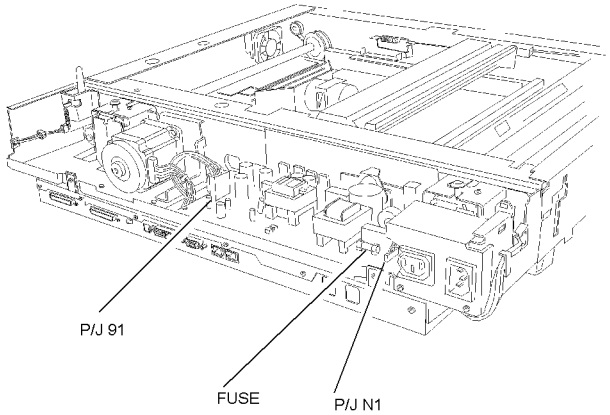
Replace the AC Switch/Harness (PL 16.6).

Replace the IIT LVPS (PL 16.1).

Replace the Fuse. If the Fuse blows again, replace the IIT LVPS (PL 16.1).

Go to the wirenets to check for any wires that may be open.
Check the IIT LVPS connectors for any loose or damaged pins.




T701011-A-WOL

**Figure 1 001-712 Circuit Diagram**

# 002-310 IIT Control Panel Failure RAP

The IIT Control Panel has failed.

## Procedure

Check the cable between the ICM Main PWB and the Control Panel for any pinched wires. Check the connectors for any loose or damaged pins. If the harness and connectors are good, replace the Control Panel Assembly (PL 16.6).

# 002-701 Blank/Garbled IOT Display RAP

## Initial Actions

Remove the Right Cover (REP 14.9) in order to check the LEDs on the ESS PWB (Figure 1). LED D5 (red LED) should not be lit and LED D4 (green LED) should be lit. If LED D5 is lit, or is flashing, replace the ESS PWB (PL 12.1).

## Procedure

**The Control Panel is blank.**

**Y N**

Reseat the Panel Harness between the ESS PWB and the Control Panel. If the problem continues, replace the following components in the order listed until the problem is resolved:

- Panel Harness (PL 12.1)
- Control Panel (PL 1.2)
- ESS PWB (PL 12.1)

***NOTE:*** *The following voltage measurement is made at the solder points for J11 on the ESS PWB. Refer to the Circuit Diagram for the correct location to make the measurements.*

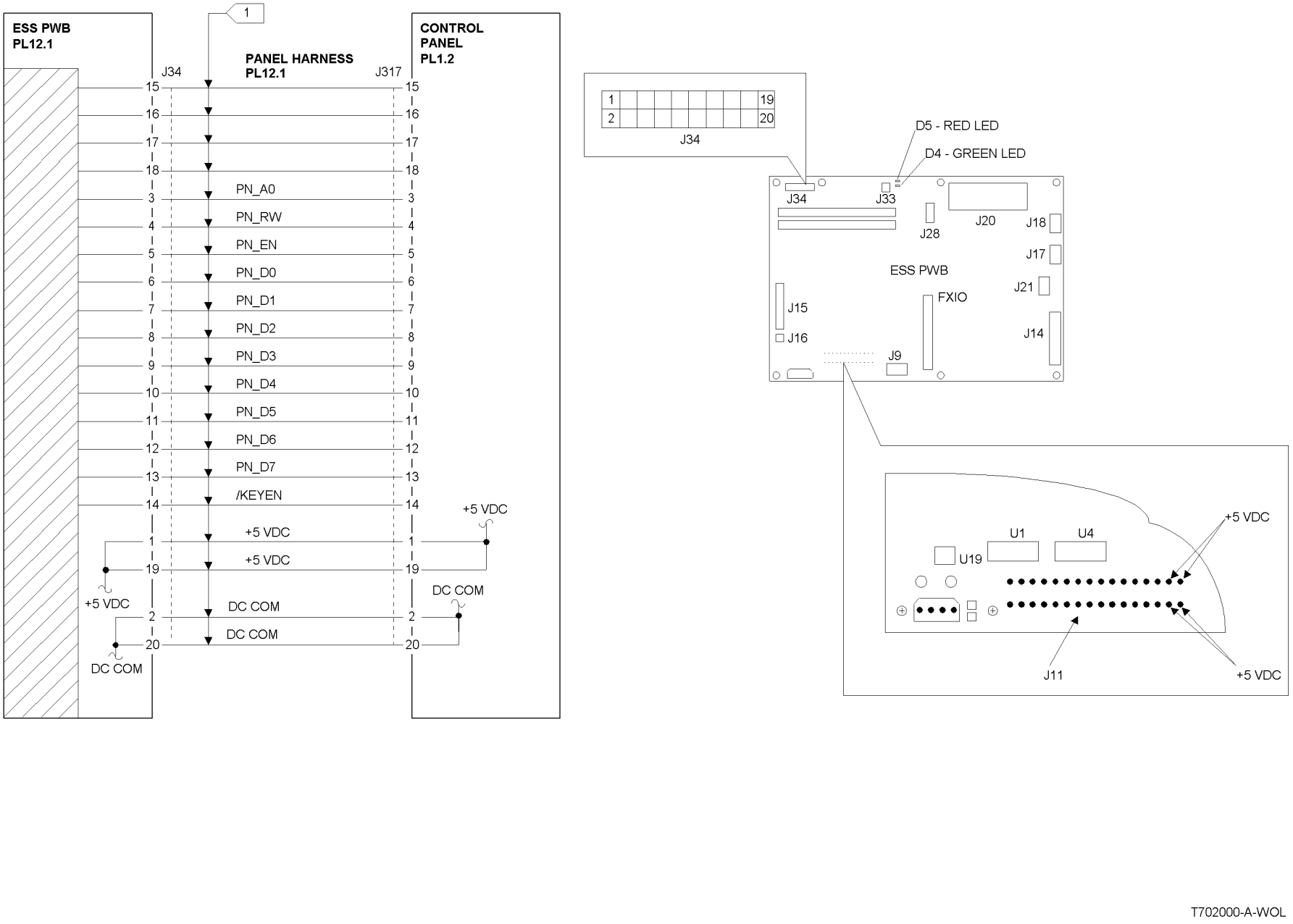
**+5 VDC is measured between J11 pins A1, A2, B1, and B2 on the ESS PWB to machine frame.**

**Y N**

Go to the 001-702 +5 VDC Power RAP.

Reseat the Panel Harness between the ESS PWB and the Control Panel. If the problem continues, replace the following components in the order listed until the problem is resolved:

- Panel Harness (PL 12.1)
- Control Panel (PL 1.2)
- ESS PWB (PL 12.1)




T702000-A-WOL

**Figure 1 002-701 Circuit Diagram**

# 002-702 IOT Control Panel Button/LED RAP

## Initial Actions

Reseat the connectors on the cable between the ESS PWB and the Control Panel (P/J34 and P/J 317. Check for any loose or damaged pins in the harness connectors.

## Procedure

Ensure that the Initial Actions has been performed. If the problem continues, replace the Control Panel (PL 1.2). If the problem continues, replace the ESS PWB (PL 12.1).

# 003-310 Feeder Communications Failure RAP

The Control Logic detected a communication failure with the Feeder PWB.

## Initial Actions

- Ensure that connector P/J 212 is properly seated on the Feeder PWB.
- Remove the ESS PWB (REP 1.9) and check the P/J 22 on the MCU PWB. Ensure that it is properly seated on the PWB.

## Procedure

Perform the following:

- Go to Flag 1. Check the wires between the Feeder PWB and the MCU PWB for an open circuit.
- If the previous check is OK, replace the Feeder PWB (PL 13.4).
- If the problem continues, replace the MCU PWB (PL 11.2).

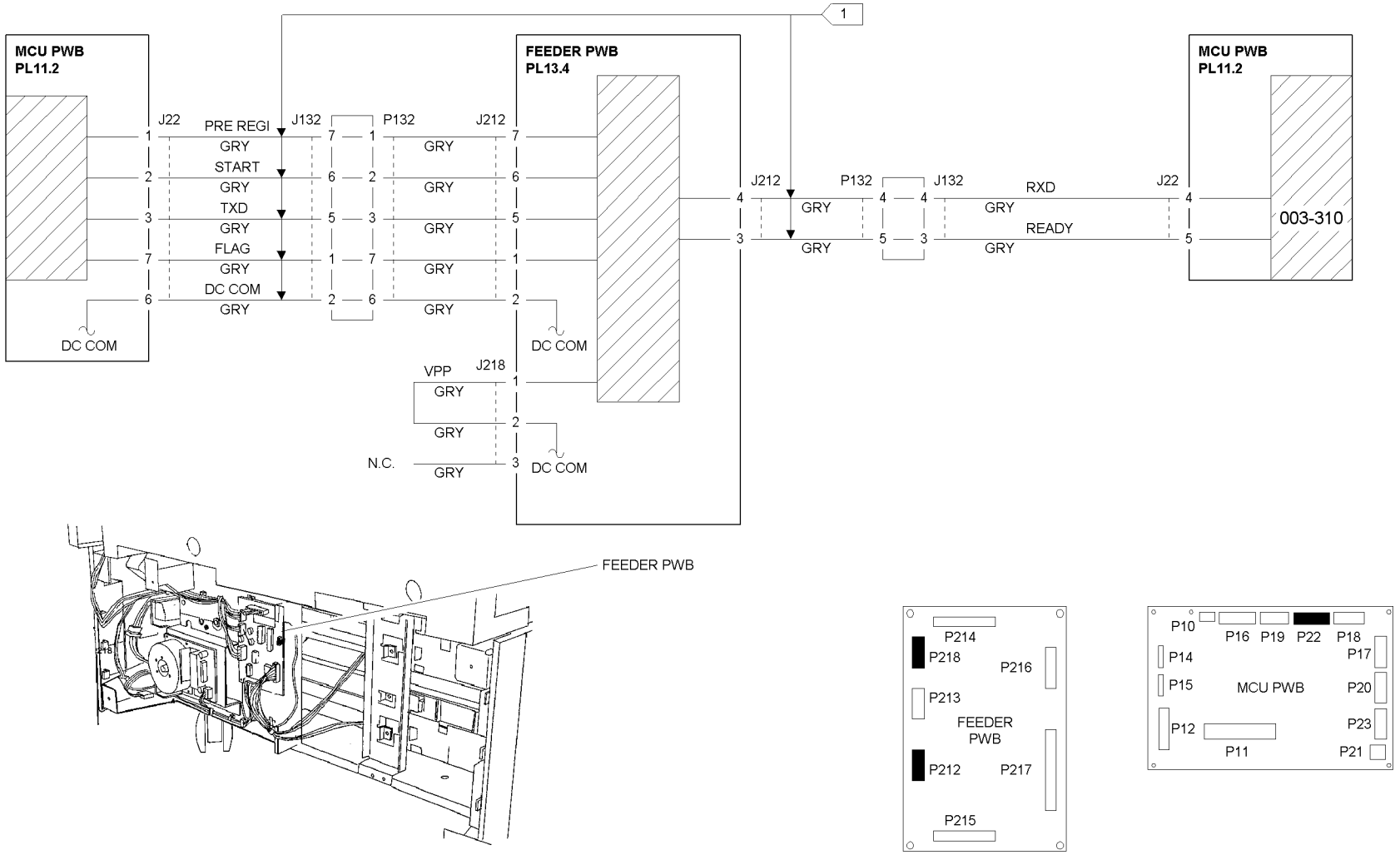



**Figure 1 003-310 RAP Circuit Diagram**

# 003-311 Duplex Communications Failure RAP

The Control Logic detected a communication failure with the Duplex Controller PWB.

## Initial Actions

- Ensure that connector P/J 142 is properly seated on the Duplex Controller PWB.
- Remove the ESS PWB (REP 1.9) and check the P/J 22 on the MCU PWB. Ensure that it is properly seated on the PWB.

## Procedure

Perform the following:

- Go to Flag 1. Check the wires between the Duplex Controller PWB and the MCU PWB for an open circuit.
- If the previous check is OK, replace the Duplex Controller PWB (PL 15.6).
- If the problem continues, replace the MCU PWB (PL 11.2).

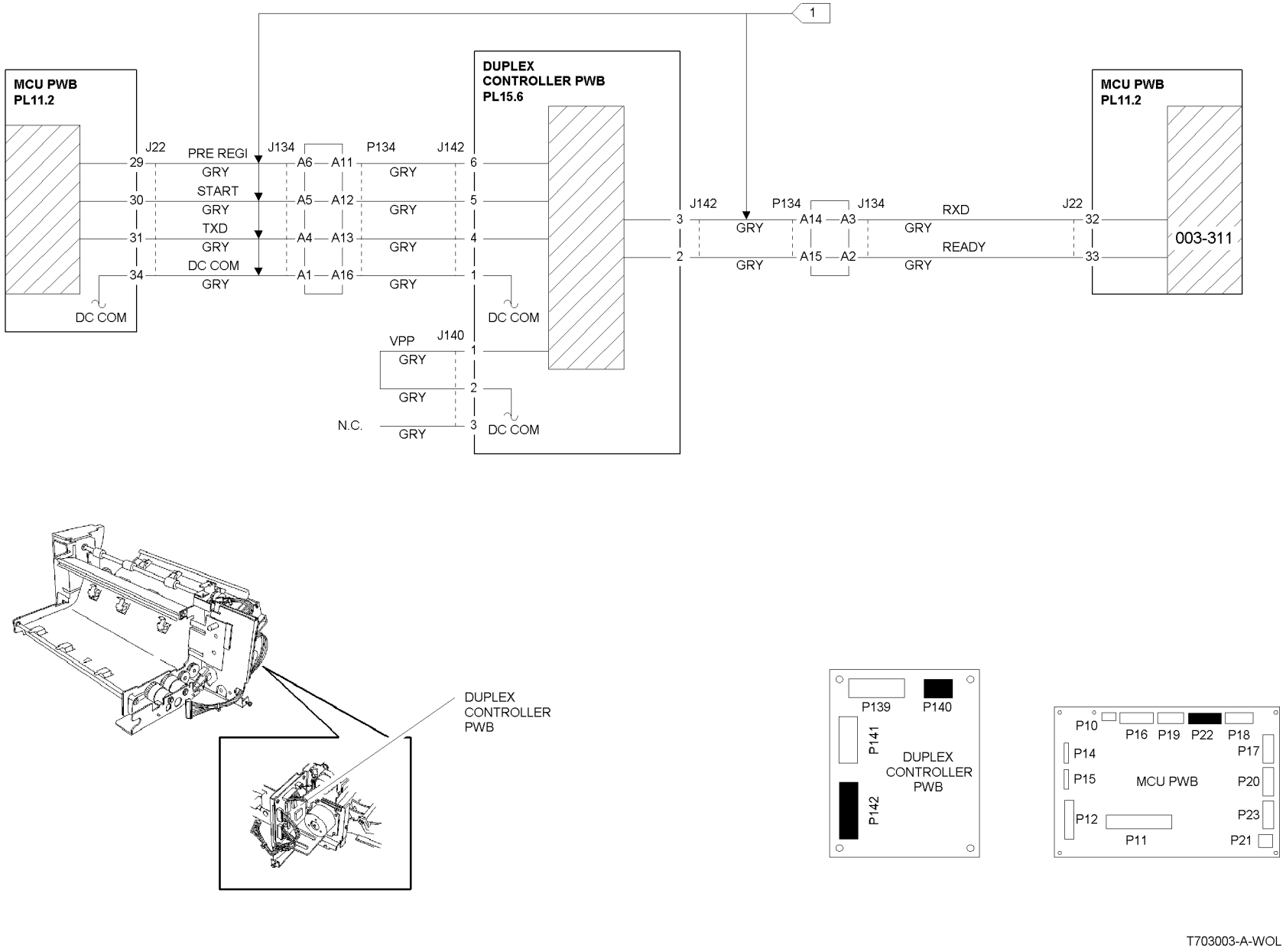



**Figure 1 003-311 RAP Circuit Diagram**

# 003-312 Sorter Communications Failure RAP

The Sorter Control Logic did not successfully receive the Start signal from the MCU PWB.

## Procedure

Go to Flag 1 and check the wires for an open or short circuit. **The wires are good.**

**Y** **N**

Repair the wires.

Replace the Sorter Control PWB (PL 19.1). If the problem continues, replace the MCU PWB (PL 11.2)

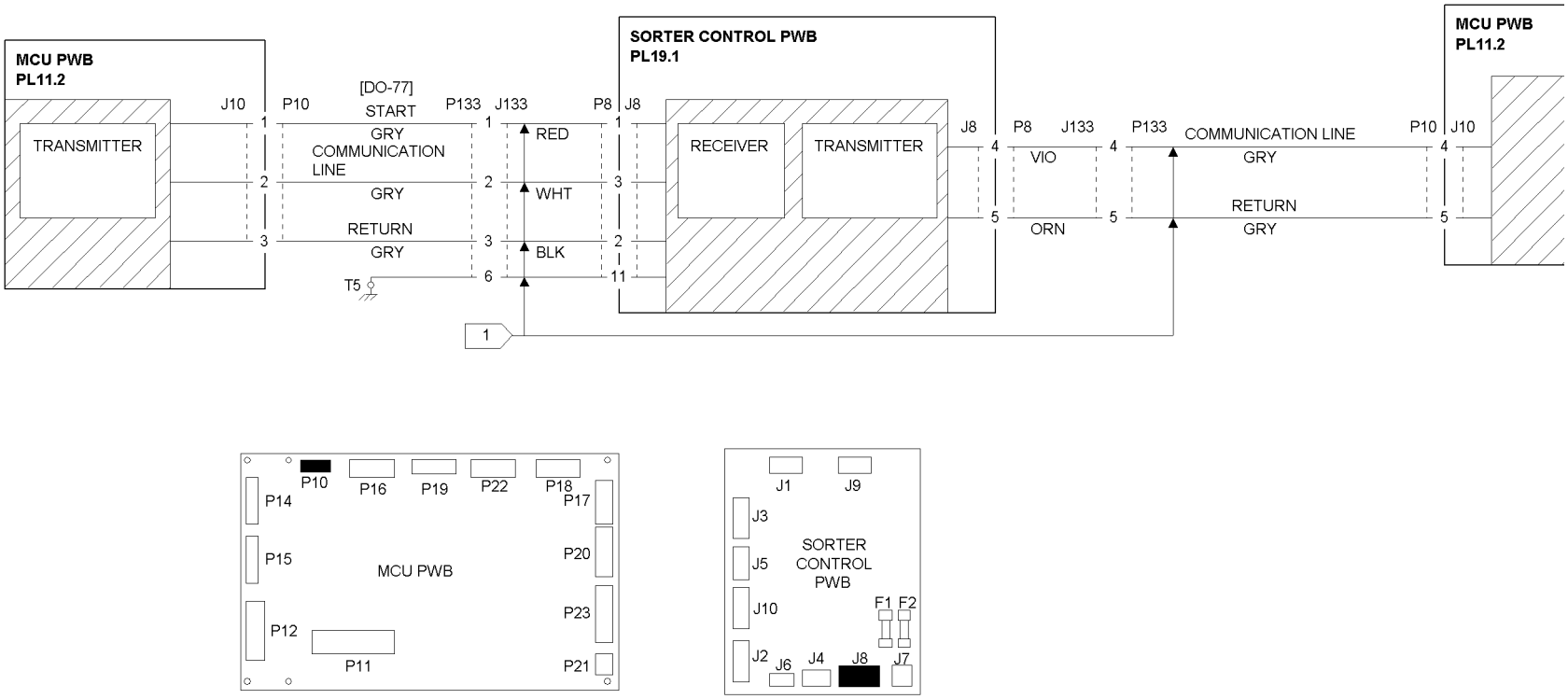



**Figure 1 003-311 RAP Circuit Diagram**

# 003-333 Foreign Interface RAP

This Fault Code indicates that a communications failure was detected between the ESS PWB and the Foreign Interface.

## Procedure

Switch the IOT power off, then on. **Fault Code 003-333 is still present.**

**Y N**

If intermittent performance is suspected, perform the following:

- Check the connections between the ESS PWB and the Foreign Interface and the interconnecting harness.
- Reseat the P/J 17 connector on the ESS PWB and P/J 905 on the Foreign Interface.

Go to Flag 1 and check the wires for an open or short circuit. **The wires are good.**

**Y N**

Repair the wires.

**There is +5 VDC between J905-8 and machine frame.**

**Y N**

**There is +5 VDC between J 17-7 and machine frame.**

**Y N**

Replace the ESS PWB (PL 12.1).

Go to Flag 2 and check the wire for an open circuit.

Go to Flag 3 and check the wires for an open or short circuit. **The wires are good.**

**Y N**

Repair the wires.

Replace the ESS PWB (PL 12.1). If the problem continues, replace the Foreign Interface.

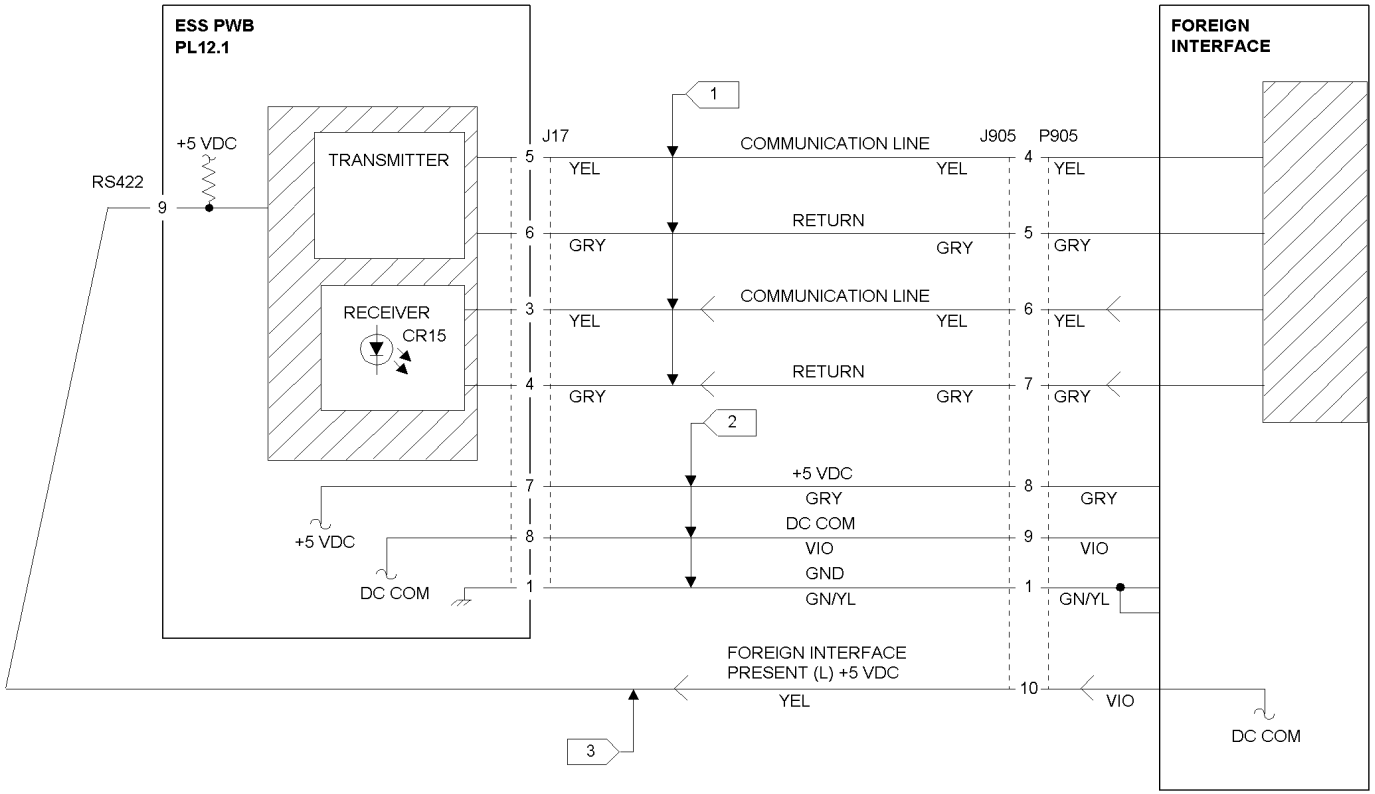



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**Figure 1 003-333 RAP Circuit Diagram**

# 003-334 Foreign Interface Compatibility RAP

This Fault Code indicates that a compatibility problem was detected between the ESS PWB and the Foreign Interface (an incorrect Foreign Interface device may be installed).

## Procedure

Switch the IOT power off, then on. **Fault Code 003-334 is still present.**

**Y N**

If intermittent performance is suspected, perform the following:

- Check the connections between the ESS PWB and the Foreign Interface and the interconnecting harness.
- Reseat the P/J 17 connector on the ESS PWB and P/J 905 on the Foreign Interface.

**The Foreign** Interface device is the correct device for the P790/DC2006.

**Y N**

Install the correct Foreign Interface.

Go to Flag 1 and check the wires for an open or short circuit. **The wires are good.**

**Y N**

Repair the wires.

Replace the Foreign Interface.

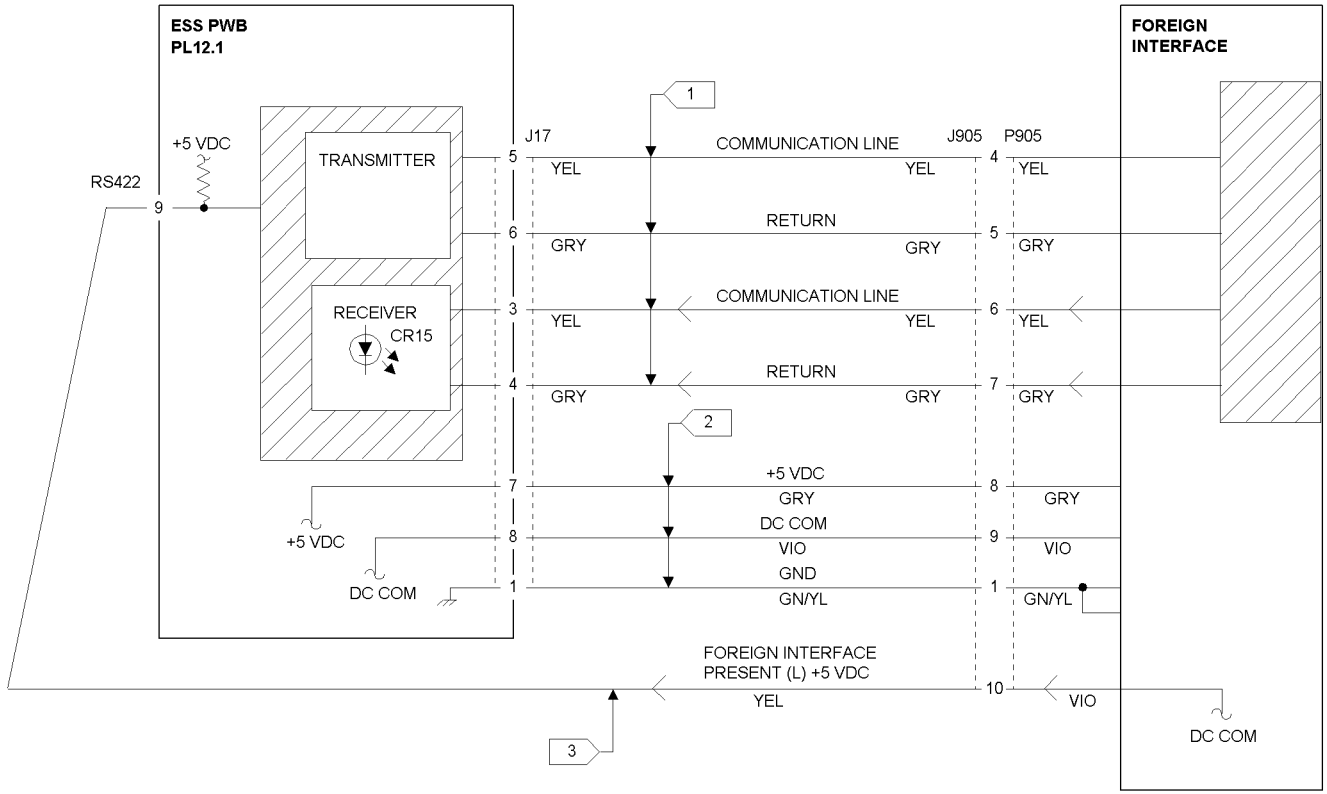



**Figure 1 003-334 RAP Circuit Diagram**

# 003-356 IOT NVM RAM Error RAP

The system detected an IOT NV RAM error at power on.

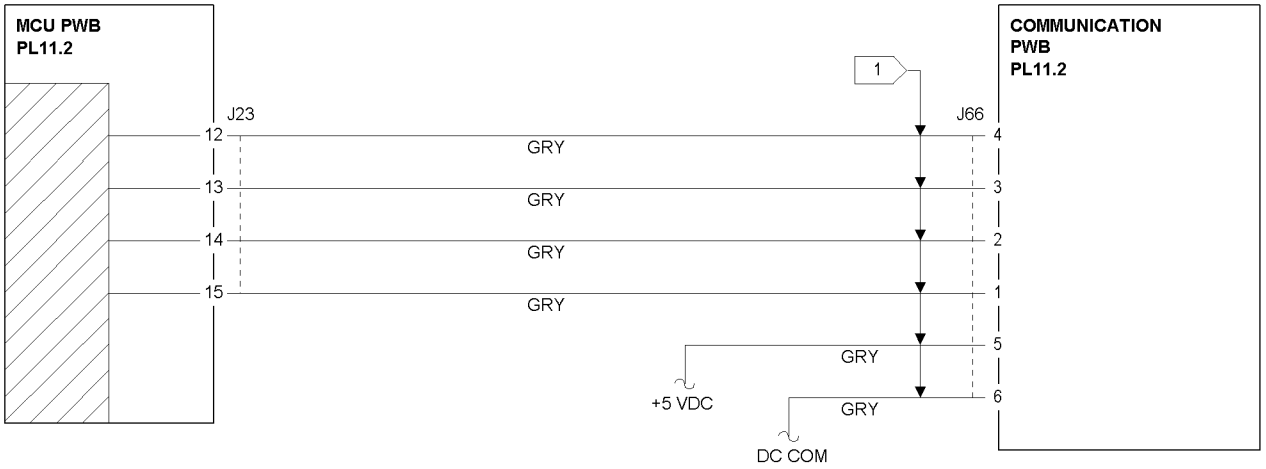
## Procedure

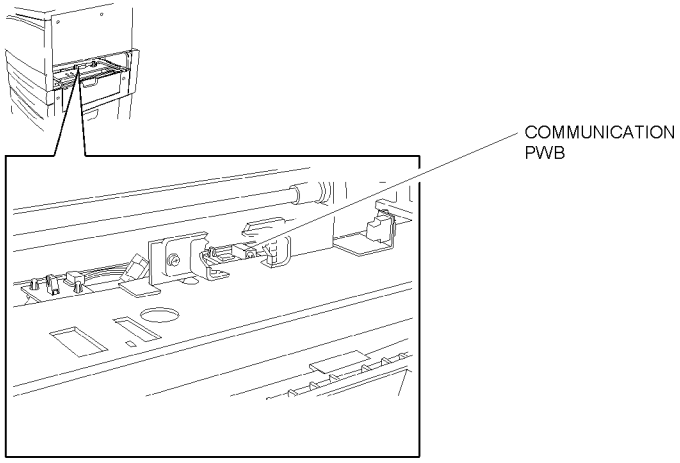
Switch the power off then switch the power on. **The fault code occurs.**

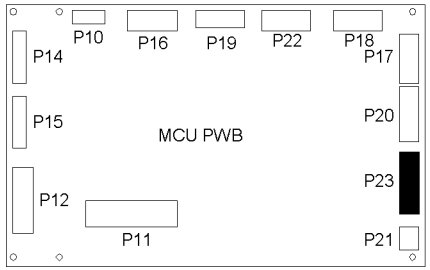
**Y N**

If the problem seems to be intermittent, reseat all connectors on the MCU PWB. If the problem occurs again, replace the MCU PWB (PL 11.2).

Go to Flag 1. Check the wires for an open or short circuit. If the wires are good, replace the Communication PWB. If the problem continues, replace the MCU PWB (PL 11.2).




T703004-A-WOL

**Figure 1 003-356 RAP Circuit Diagram**

## 003-400 IOT Firmware Error RAP

The system detected an IOT firmware error.

### Procedure

Switch the power off then switch the power on. **The Fault Code occurs.**

**Y N**

If the problem seems to be intermittent, reseat all connectors on the MCU PWB. If the problem occurs again, Perform GP 8, IOT Software Installation. If the problem is still not resolved, replace the MCU PWB (PL 11.2).

Perform GP 8, IOT Software Installation. If the problem continues, replace the MCU PWB (PL 11.2).

## 003-701 Copy/Print Cartridge Error RAP

The Control Logic detected an error with the Copy/Print Cartridge CRUM.

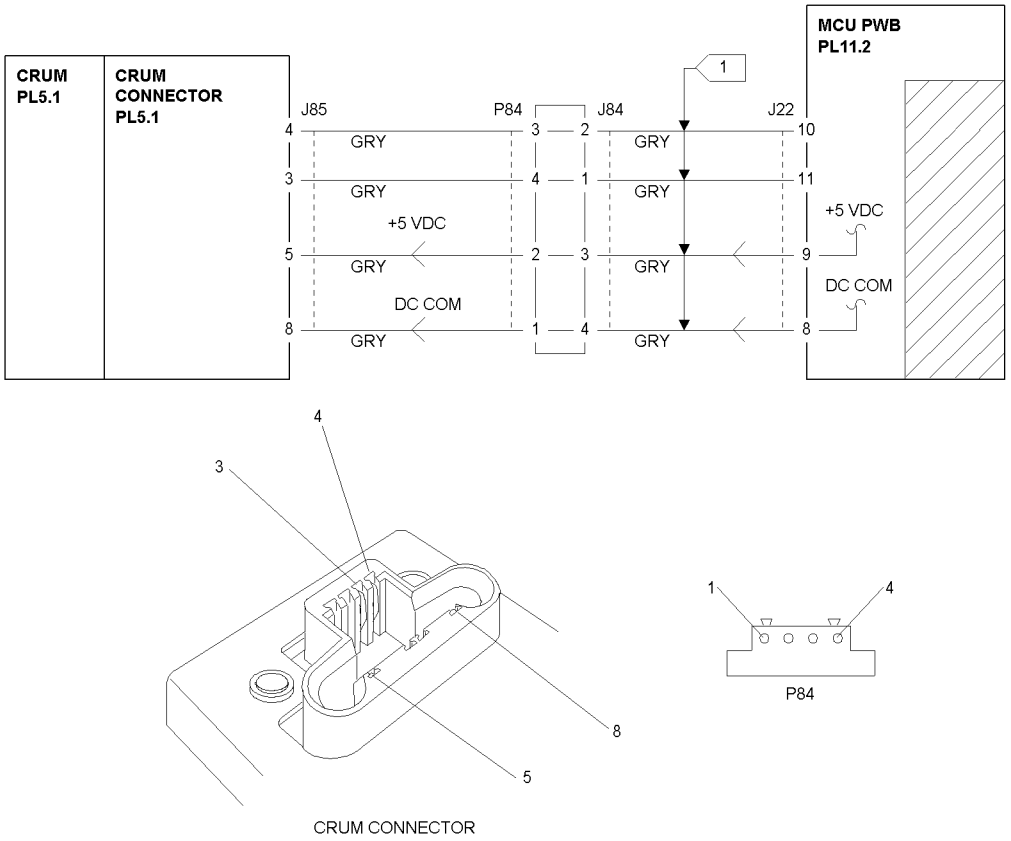
### Initial Actions

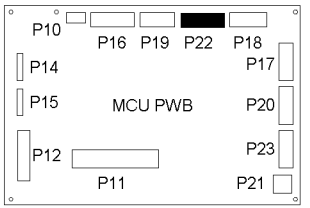
- If the Copy/Print Cartridge is due to be replaced, refer to REP 9.1 and replace the cartridge.
- Check the CRUM connector on the Copy/Print Cartridge. Ensure that the contacts are clean and not damaged. Replace the Copy/Print Cartridge if required (PL 5.1).

### Procedure

Perform the following:

- Go to Flag 1 and check the connectors on the MCU PWB, P/J 84, and on the CRUM Connector.
- If the previous check is OK, replace the MCU PWB (PL 11.2).




T703001-A-WOL

**Figure 1 003-701 RAP Circuit Diagram**

# 004-320 Paper Handling Motor RAP

The Control Logic detected that the Paper Handling Motor is not functioning.

## Initial Actions

Check the connectors on the Drive Motor PWB. Ensure that they are correctly seated.

## Procedure

Switch off the power then switch on the power. **The 04-320 fault code is declared at the end of self-test.**

**Y N**

Go to Flag 2 and check the harness between the Drive Motor PWB and the Paper Handling Motor for damaged wires or connector pins. If the wires are OK, replace the Paper Handling Motor (PL 10.1). If the problem continues, replace the Drive Motor PWB (PL 10.1).

Access the Digital Output (DO) test from the Control Panel. Enter code [53]. Press the **Item/Enter** button. The Paper Handling Motor energizes.

**Y N**

Access the DO Stop Test from the Control Panel. Enter code [53]. Press the **Item/Enter** button. **+5 VDC is measured between J50-2 on the Drive Motor PWB and machine frame.**

**Y N**

Go to Flag 3 and check the wires for an open circuit. If the wires are good, replace the MCU PWB (PL 11.2).

Access the Digital Output (DO) test from the Control Panel. Enter code [53]. Press the **Item/Enter** button. **The voltage at J50-2 goes to less than +1.0 VDC**

**Y N**

Replace the MCU PWB (PL 11.2).

**+24 VDC is measured between J49-2 on the Drive Motor PWB and machine frame.**

**Y N**

Go to Flag 4 and check the wires for an open circuit (refer to the +24 VDC Interlocked Wirenet).

Go to Flag 2 and check the harness between the Drive Motor PWB and the Paper Handling Motor for damaged wires or connector pins. If the wires are OK, replace the Paper Handling Motor (PL 10.1). If the problem continues, replace the Drive Motor PWB (PL 10.1). If the problem can not be resolved, replace the MCU PWB (PL 11.1)

Check the following:

- Go to Flag 1 and check the wire for an open circuit.
- Go to Flag 2 and check the harness between the Drive Motor PWB and the Paper Handling Motor for damaged wires or connector pins.
- The problem may be intermittent. Go to Figure 1 and check for loose or damaged connections or damaged wires. If the problem persists, replace the replace the MCU PWB (PL 11.2).

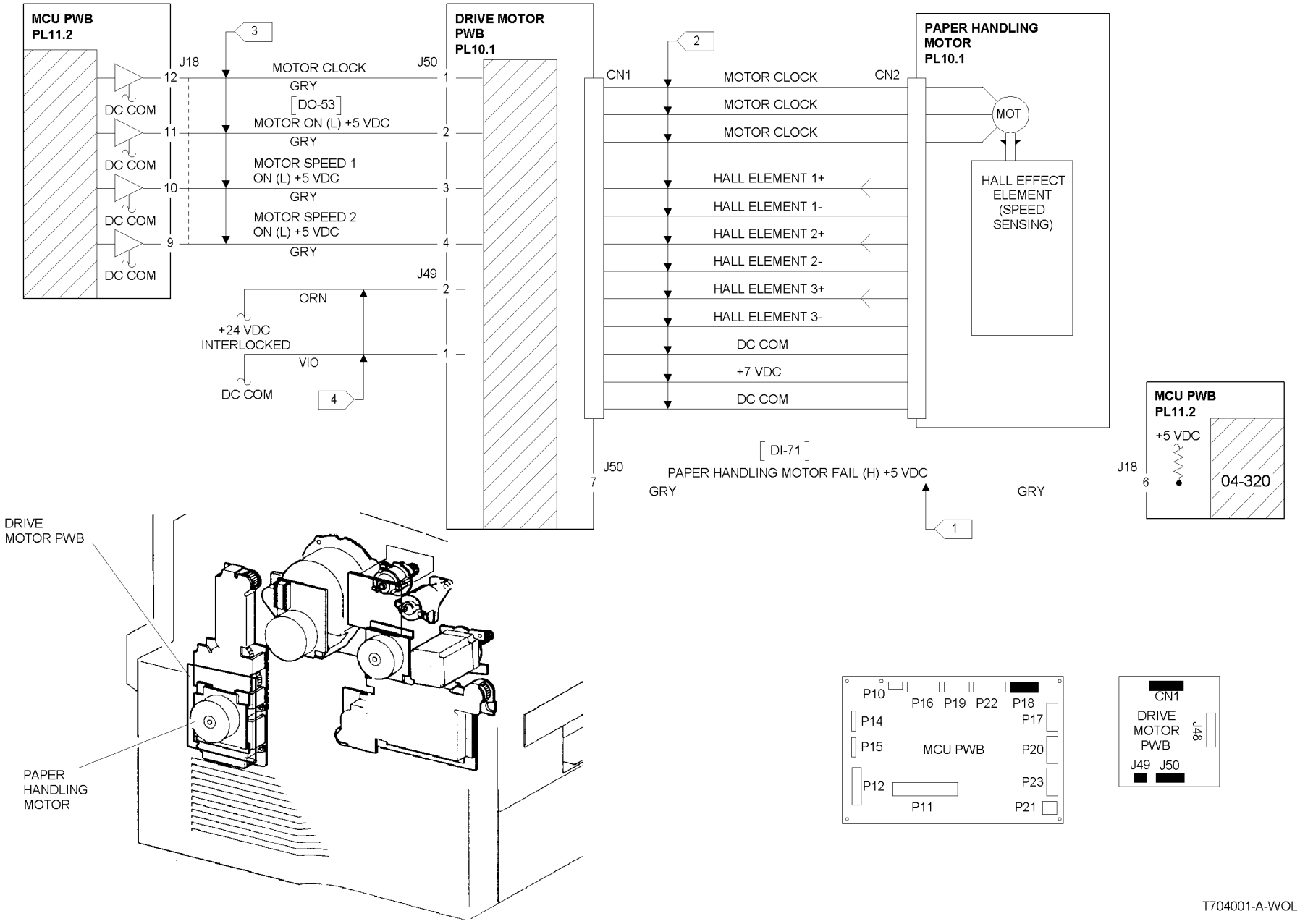



**Figure 1 004-320 RAP Circuit Diagram**

# 004-322 Fuser Motor RAP

The Control Logic detected that the Fuser Motor is not functioning.

## Initial Actions

Check the connectors on the Drive Motor PWB and the Fuser Motor. Ensure that they are correctly seated.

## Procedure

Switch off the power then switch on the power. **The 04-322 fault code is declared at the end of self-test.**

**Y N**

Go to Flag 2 and check the harness between the Drive Motor PWB and the Fuser Motor for damaged, or loose, wires or connector pins. If the wires are OK, replace the Fuser Motor (PL 10.1). If the problem continues, replace the Drive Motor PWB (PL 10.1).

Access the Digital Output (DO) test from the Control Panel. Enter code [53]. Press the **Item/ Enter** button. The Fuser Motor energizes.

**Y N**

Go to Flag 2 and check the harness between the Drive Motor PWB and the Fuser Motor for damaged wires or connector pins. If the wires are OK, replace the Fuser Motor (PL 10.1). If the problem continues, replace the Drive Motor PWB (PL 10.1). If the problem can not be resolved, replace the MCU PWB (PL 11.1)

Check the following:

- Go to Flag 1 and check the wire for an open circuit.
- Go to Flag 2 and check the harness between the Drive Motor PWB and the Fuser Motor for damaged wires or connector pins.
- The problem may be intermittent. Go to Figure 1 and check for loose or damaged connections or damaged wires. If the problem persists, replace the replace the MCU PWB (PL 11.2).

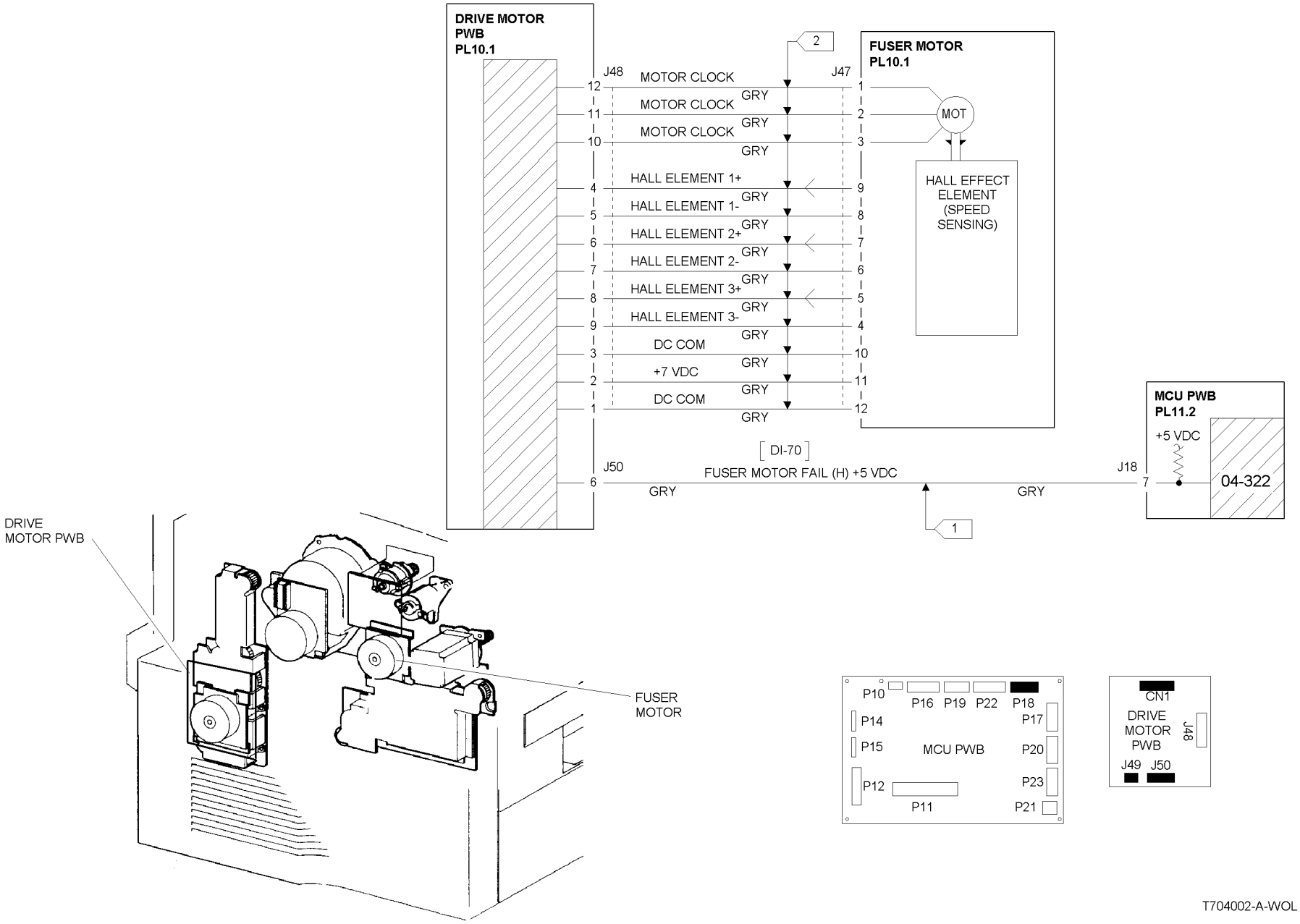



**Figure 1 004-322 RAP Circuit Diagram**

# 005-210 Nudger Home RAP

The signal, Nudger Home (L), is not detected within 1 second after ADF Drive Motor is energized.

## Procedure

Switch off the power. Remove the ADF Rear Cover. Observe the Nudger Roll as the power is switched on. **The Nudger Roll Rotates.**

**Y N**

**The ADF Drive Motor energized.**

**Y N**

Switch off the power. Disconnect the belt from the ADF Drive Motor. Switch on the power **The ADF Drive Motor energizes.**

**Y N**

**There is +24 VDC from pin 1 and from pin 6 of J 812 to frame ground.**

**Y N**

Replace the ADF Control PWB (PL 17.2).

Go to Flag 3. Check for broken wires, or damaged pins at J 812. If the wires and connector are OK, replace the ADF Control PWB (PL 17.2). If the problem continues, replace the ADF Drive Motor (PL 17.2).

Check for binding or damage to the one-way Pulleys (PL 17.2).

Check for loose or damaged Belts or Pulleys (PL 17.2, PL 17.3).

Remove the ADF Front Cover (PL 17.1). Block and unblock the Nudger Home Sensor as you monitor the voltage from J 814 pin 8 to frame ground. **The voltage is +5 VDC when the sensor is blocked and less than 1 VDC when the sensor is not blocked.**

**Y N**

**The voltage is always less than 1 VDC**

**Y N**

Disconnect P/J 713. **There is +5 VDC from pin 1 to pin 3 on J 713.**

**Y N**

**There is +5 VDC from pin 9 to pin 7 on J 814**

**Y N**

Go to Flag 2. Check for a short circuit. If the wires are OK, replace the ADF Control PWB (PL 17.2).

Go to Flag 2. Check for an open circuit.

Replace the Nudger Home Sensor (PL 17.3).

Disconnect P/J 713. **The voltage changes to +5 VDC.**

**Y N**

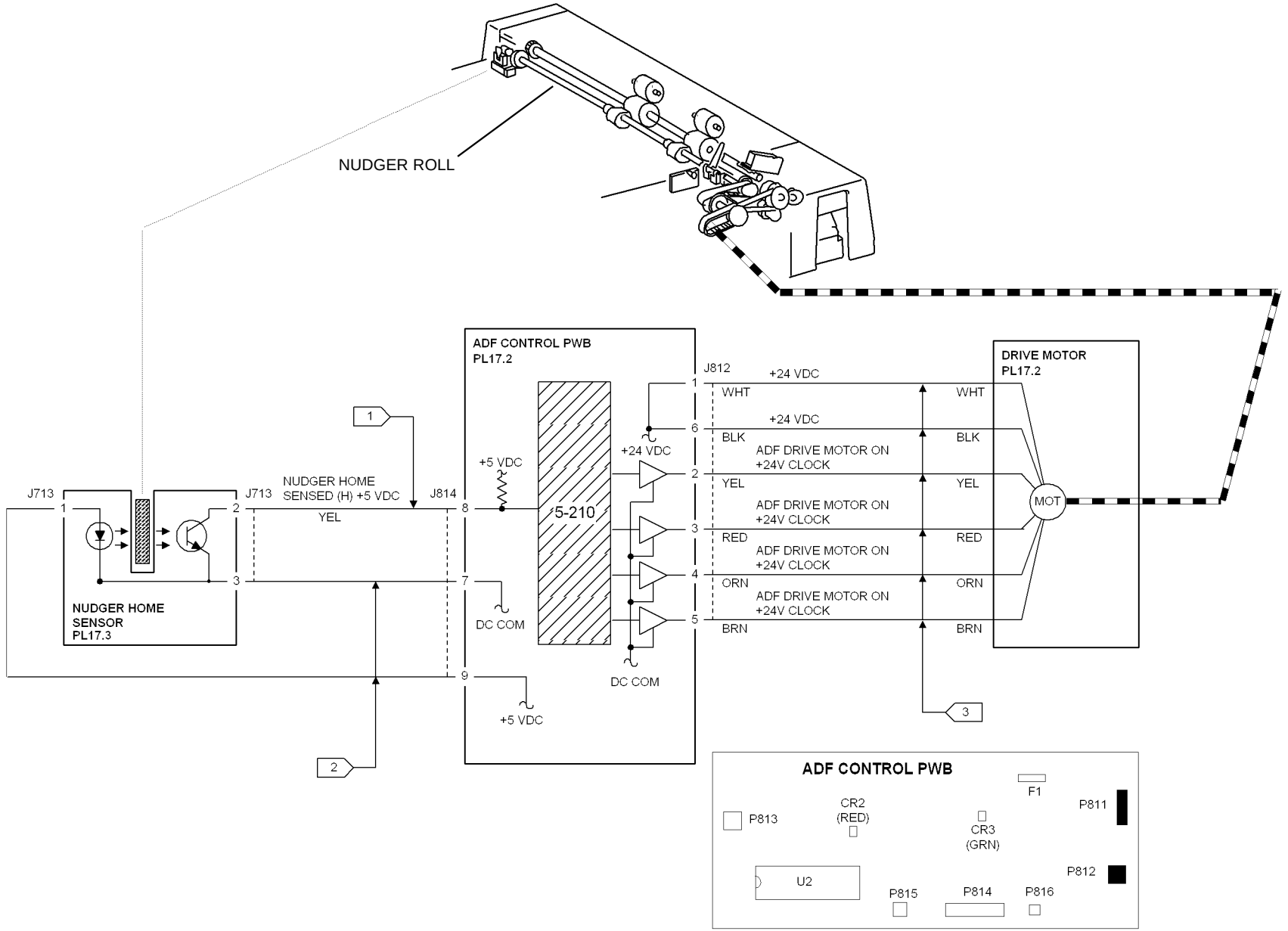
Go to Flag 1. Check for a short circuit to ground. If the wire is OK, replace the ADF Control PWB (PL 17.2).

Replace the Nudger Home Sensor (PL 17.3).

**A**

**A**

Check that the Actuator for the Nudger Home Sensor (PL 17.3) is installed correctly and is free from damage. If the Actuator is OK, replace the ADF Control PWB (PL 17.2).




T705002-A-WOL

**Figure 1 005-210 RAP Circuit Diagram**

# 005-211 ADF Power RAP

ADF Motor Power Error

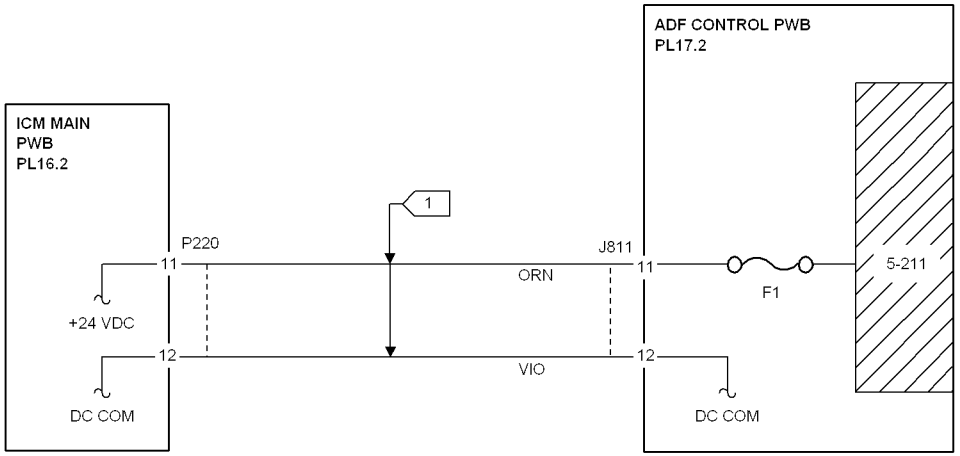
## Procedure

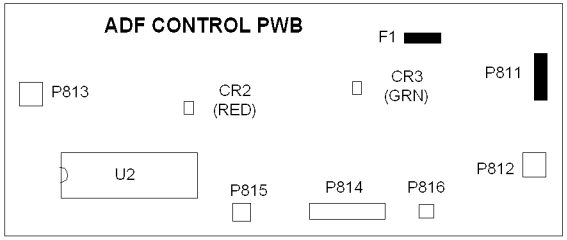
Remove the ADF Rear Cover. **There is +24 VDC from pin 11 to pin 12 on J811.**

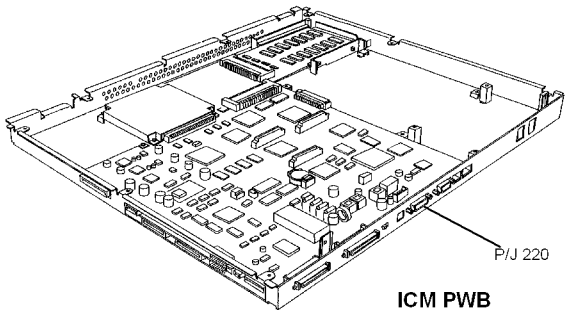
**Y** **N**

Go to Flag 1. Check for an open circuit. If the wires are OK, go to the 001-712 RAP.

Check the fuse on the ADF Control PWB (PL 17.2). If the Fuse is OK, replace the ADF Control PWB (PL 17.2).




T705001-A-WOL

**Figure 1 005-211 RAP Circuit Diagram**

# 005-220/221 ADF Communications RAP

ADF Communication Error

## Procedure

**There is +5 VDC from pin 9 to pin 10 on J811.**

**Y N**

Go to Flag 4. Check for an open circuit. If the wires are OK, replace the ICM Main PWB (PL 16.2).

Switch off the power. Remove the ADF Rear Cover. Switch on the power. **The red LED (CR2) flashes when power is switched on.**

**Y N**

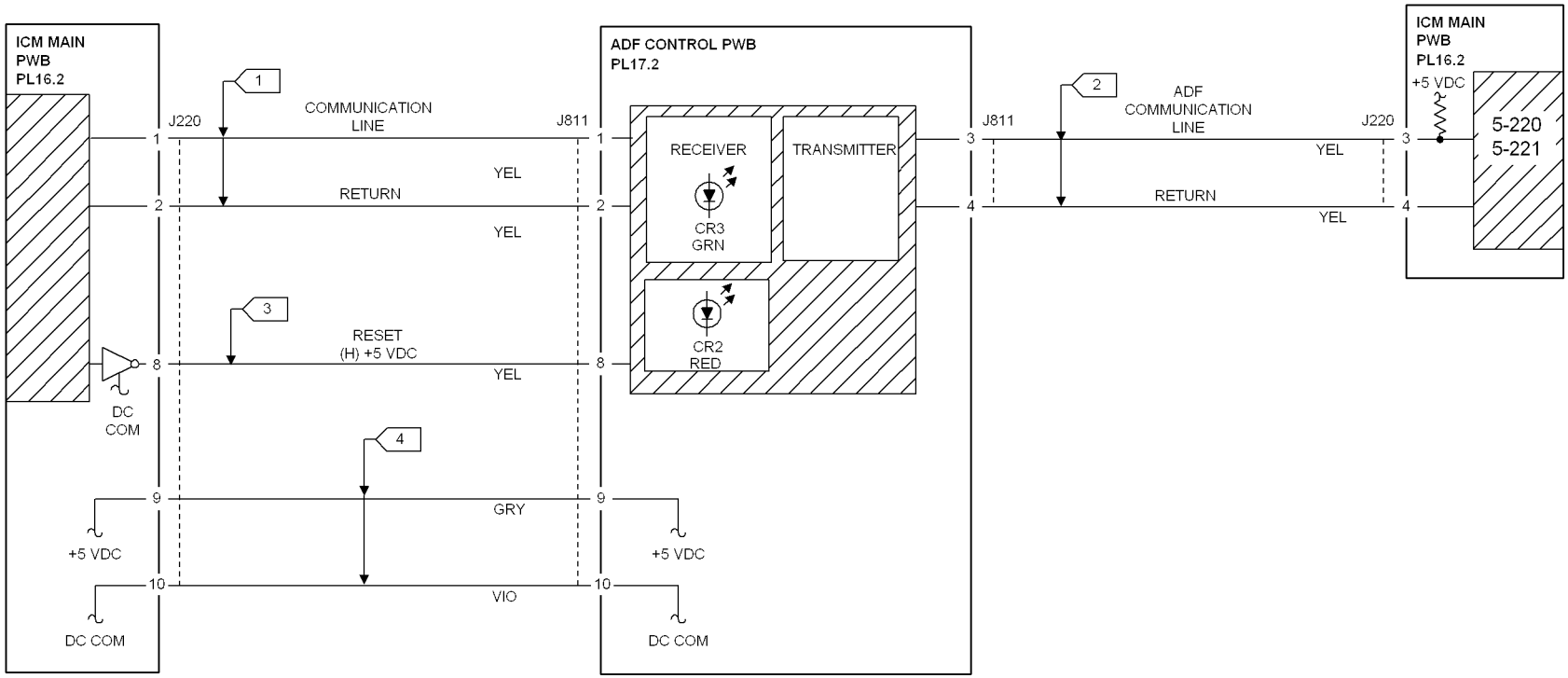
Go to Flag 3. Check for an open circuit. If the wire is OK, replace the ADF Control PWB (PL 17.2). If the problem persists, replace the ICM Main PWB (PL 16.2).

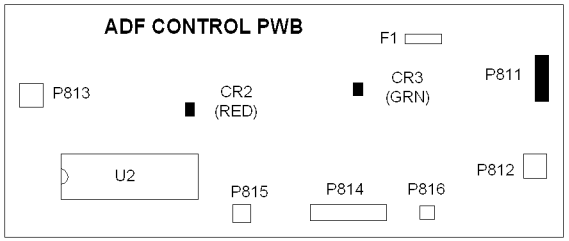
Switch off the power then switch on the power. **The green LED (CR3) flashes when power is switched on.**

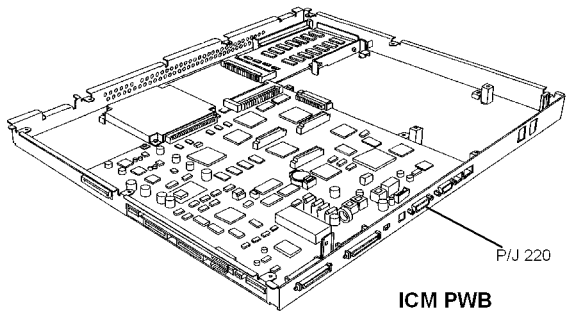
**Y N**

Go to Flag 1. Check for an open circuit. If the wires are OK, replace the ADF Control PWB (PL 17.2). If the problem persists, replace the ICM Main PWB (PL 16.2).

Go to Flag 2. Check for an open circuit. If the wires are OK, replace the ADF Control PWB (PL 17.2). If the problem persists, replace the ICM Main PWB (PL 16.2).




T705000-A-WOL

**Figure 1 005-220/221 RAP Circuit Diagram**

# 005-700 ADF Fault Entry RAP

## Procedure

Use the following table to troubleshoot ADF problems that do not generate a fault code.

**Table 1**

| Problem description | Troubleshooting |
|---|---|
| ADF not recognized. Copies made from Platen Glass even with documents in the Entrance Tray | Go to the 005-703 RAP |
| Entrance Jam. First sheet of set jammed in Registration Chute. | Go to the 005-701 RAP |
| Exit Jam. First Sheet of set stalled on glass or jammed in Exit Chute. | Go to the 005-702 RAP |
| Incomplete copy job. Copy job is never finished. Documents may or may not recirculate. IIT display never returns to READY TO COPY. | Go to the 005-704 RAP |

# 005-701 ADF Entrance Jam RAP

## Procedure

**The green LED of the Document Set Indicator is always lit.**

**Y N**

Remove the ADF Rear Cover. **There is +5 VDC from J 814 pin 5 to frame ground.**

**Y N**

Disconnect P/J 712. **There is +5 VDC from J 814 pin 5 to frame ground.**

**Y N**

Go to Flag 4. Check for a short circuit. If the wire is OK, replace the ADF Control PWB (PL 17.2).

Replace the ADF Registration Sensor (PL 17.5).

Open the Upper Chute Cover. Insert a sheet of paper into the Registration Chute until it blocks the ADF Registration Sensor. **There is less than 1 VDC from J 814 pin 5 to frame ground.**

**Y N**

**There is +5 VDC from pin 6 to pin 4 of J814.**

**Y N**

Replace the ADF Control PWB (PL 17.2).

**There is +5 VDC from pin 1 to pin 3 of J 712.**

**Y N**

Go to Flag 5. Check for an open circuit.

Replace the ADF Registration Sensor (PL 17.5)

The Gear (PL 17.3) on the outboard end of the Feed Roll (REP 5.4) and the Pulley (PL 17.2) on the inboard end of the Nudger Roll (REP 5.5) contain one-way clutches. Ensures that these parts are installed correctly, and that the clutch functions per the descriptions in the repair procedures. **The Gear and Pulley are OK.**

**Y N**

Clean, repair, reinstall or replace as required.

Check the following for wear, damage, or dirt:

- Drive Belts (PL 17.2)
- Feed Roll (PL 17.3)
- Registration Roll (PL 17.3)
- Retard Rolls (PL 17.4)
- Platen Belt, Bearings, and Drive Gear (PL 17.6).
- Ensure that the Nudger Chute (PL 17.4) moves freely.

**The checks are good.**

**Y N**

Clean, repair, or replace as required.

Go to Flag 3. Check for broken wires or loose pins. If the problem continues replace the ADF Control PWB (PL 17.2).
If the problem remains, replace the ADF Drive Motor (PL 17.2).

**A**

**There is +5 VDC from pin 3 to pin 1 of J814.**

**Y N**

Replace the ADF Control PWB (PL 17.2).

**There is +5 VDC from pin 1 to pin 3 of J 711.**

**Y N**

Go to Flag 2. Check for an open circuit.

Disconnect P/J 711. **There is +5 VDC from J 814 pin 2 to frame ground.**

**Y N**

Go to Flag 1. Check for a short circuit. If the wire is OK, replace the ADF Control PWB (PL 17.2).

Replace the Document Set Sensor (PL 17.5).

**A**

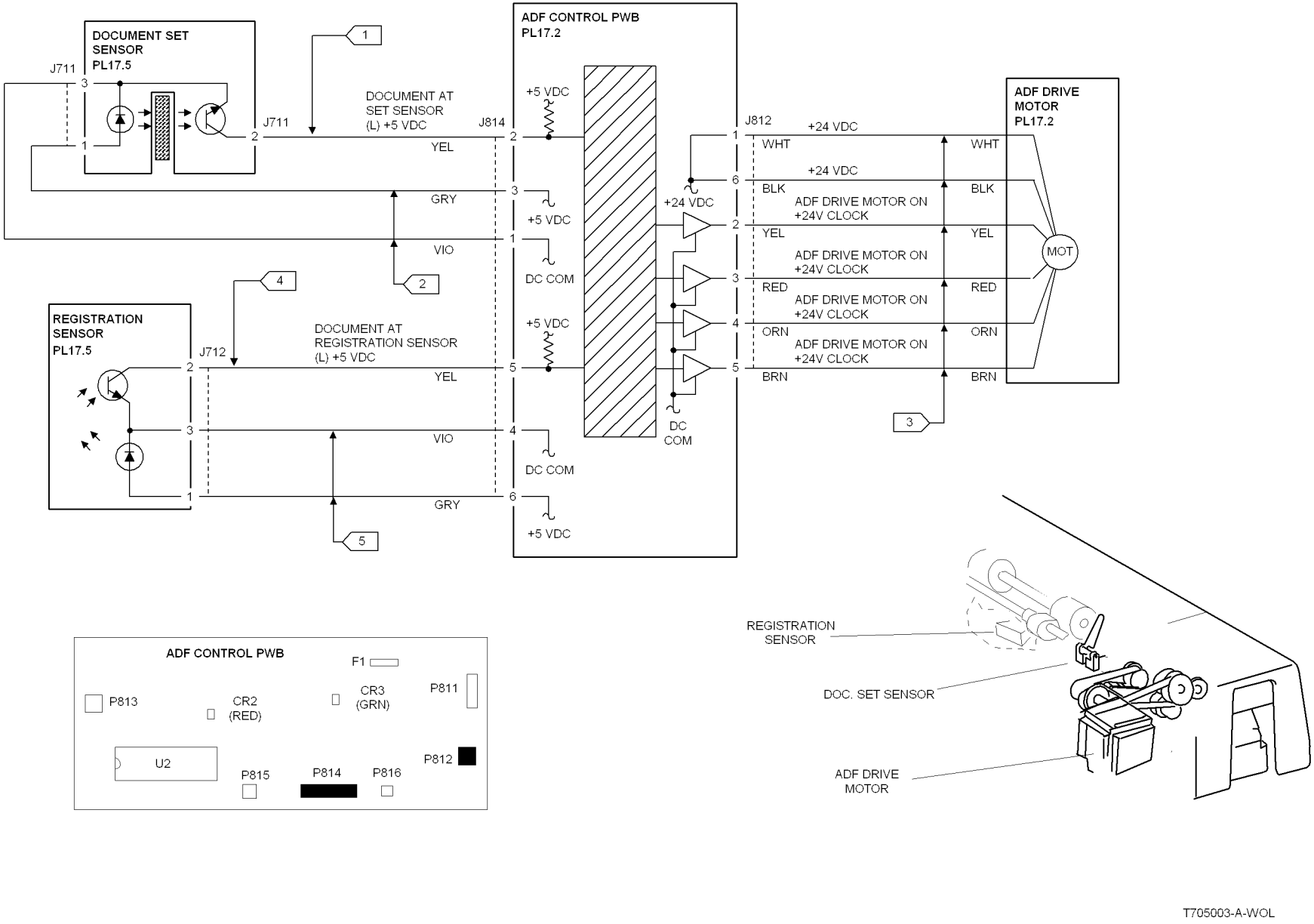



**Figure 1 005-701 RAP Circuit Diagram**

# 005-702 ADF Exit Jam RAP

## Procedure

Remove the ADF Rear Cover. Enter Copy mode. Place a sheet of paper into the Entrance Tray. Press the **Start** button. **The ADF Exit Motor energizes.**

**Y N**

Switch off the power. Disconnect the belt from the ADF Exit Motor. Switch on the power **The ADF Exit Motor energizes.**

**Y N**

**There is +24 VDC from pin 1 and from pin 6 of J 813 to frame ground.**

**Y N**

Replace the ADF Control PWB (PL 17.2).

Go to Flag 3. Check for broken wires, or damaged pins at J 813. If the wires and connector are OK, replace the ADF Control PWB (PL 17.2). If the problem continues, replace the ADF Exit Motor (PL 17.7).

Check for binding or damage to the Upper and Lower Exit Rolls and Bearings.(PL 17.7).

**There is +5 VDC from J 815 pin 2 to frame ground.**

**Y N**

Disconnect P/J 718. **There is +5 VDC from J 815 pin 2 to frame ground.**

**Y N**

Go to Flag 1. Check for a short circuit. If the wire is OK, replace the ADF Control PWB (PL 17.2).

Replace the ADF Exit Sensor (PL 17.7).

Remove the Exit Chute Cover (PL 17.7). Press and hold the actuator for the ADF Exit Sensor. **There is less than 1 VDC from J 815 pin 2 to frame ground.**

**Y N**

**There is +5 VDC from pin 3 to pin 1 of J 815.**

**Y N**

Replace the ADF Control PWB (PL 17.2).

**There is +5 VDC from pin 1 to pin 3 of J 718.**

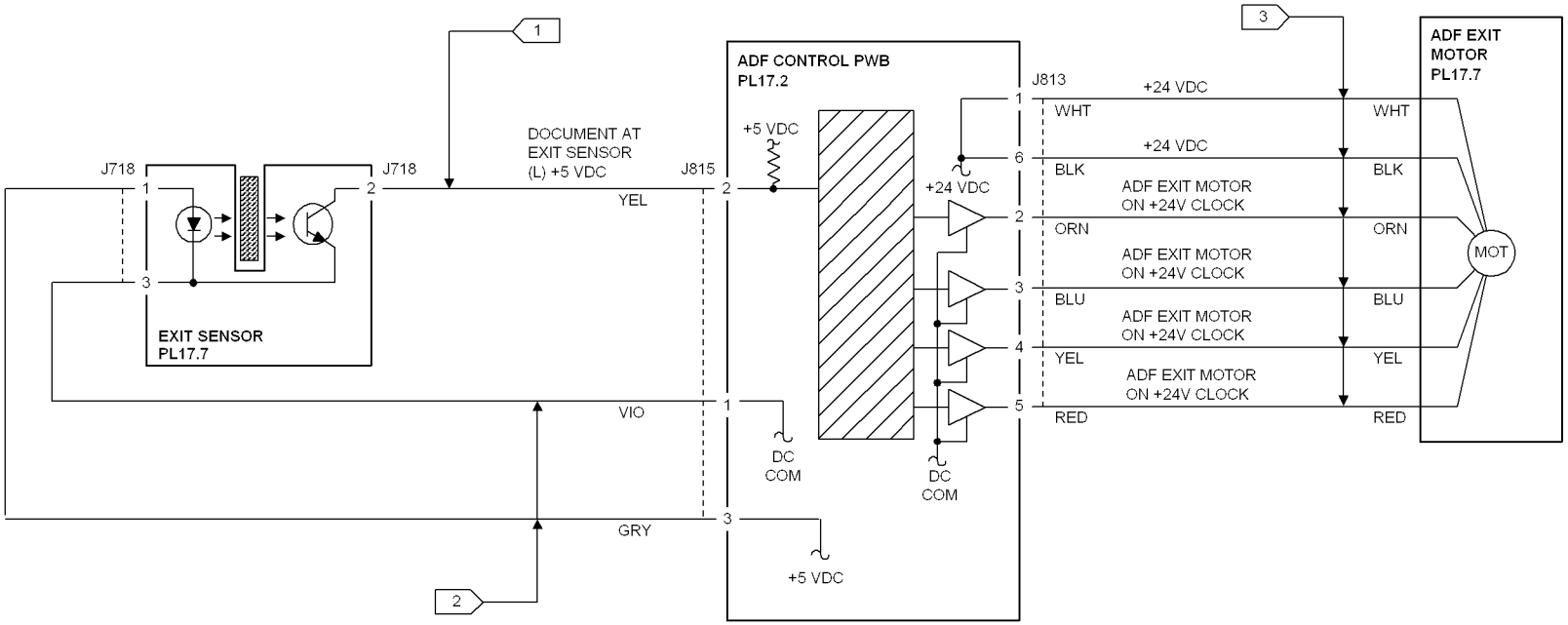
**Y N**

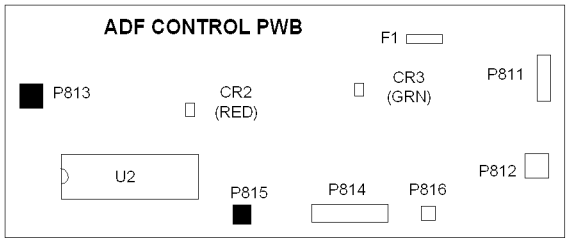
Go to Flag 2. Check for an open circuit.

Replace the ADF Exit Sensor (PL 17.7).

Check for the following conditions (PL 17.7):

- Worn or dirty Exit Rolls
- Damaged or missing Pinch Rolls
- Damaged or incorrectly installed Antistatic Brush
- Blockage or damage to the Exit Chute.
- Wear or damage to the Exit Roll Pulleys or Belt



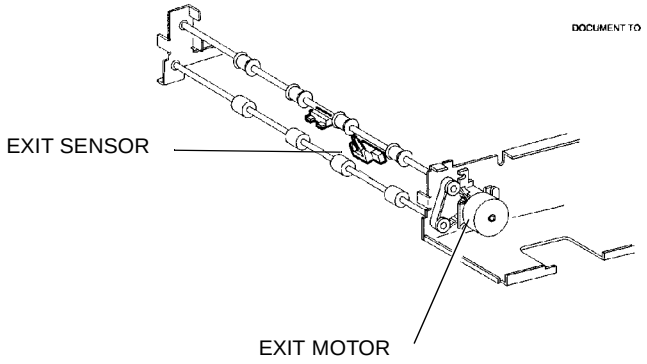




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**Figure 1 005-702 RAP Circuit Diagram**

# 005-703 ADF No Feed RAP

## Procedure

Open, then close the Upper Chute Cover. **The ADF Drive Motor cycles.**

**Y N**

Go to Flag 3. Check for an open circuit. If the wire is OK, replace the ADF Control PWB (PL 17.2). If the problem remains, replace the ICM Main PWB (PL 16.2).

Use a test lead or a jumper wire to short J 814 pin 2 to ground. **The Document Set Indicator lights.**

**Y N**

Replace the ADF Control PWB (PL 17.2).

Disconnect P/J 711. **There is +5 VDC from pin 2 of J711 to frame ground.**

**Y N**

Go to Flag 1. Check for an open circuit.

**There is +5 VDC from pin 1 to pin 3 of J711.**

**Y N**

Go to Flag 2. Check for an open circuit.

Replace the Document Set Sensor (PL 17.5).

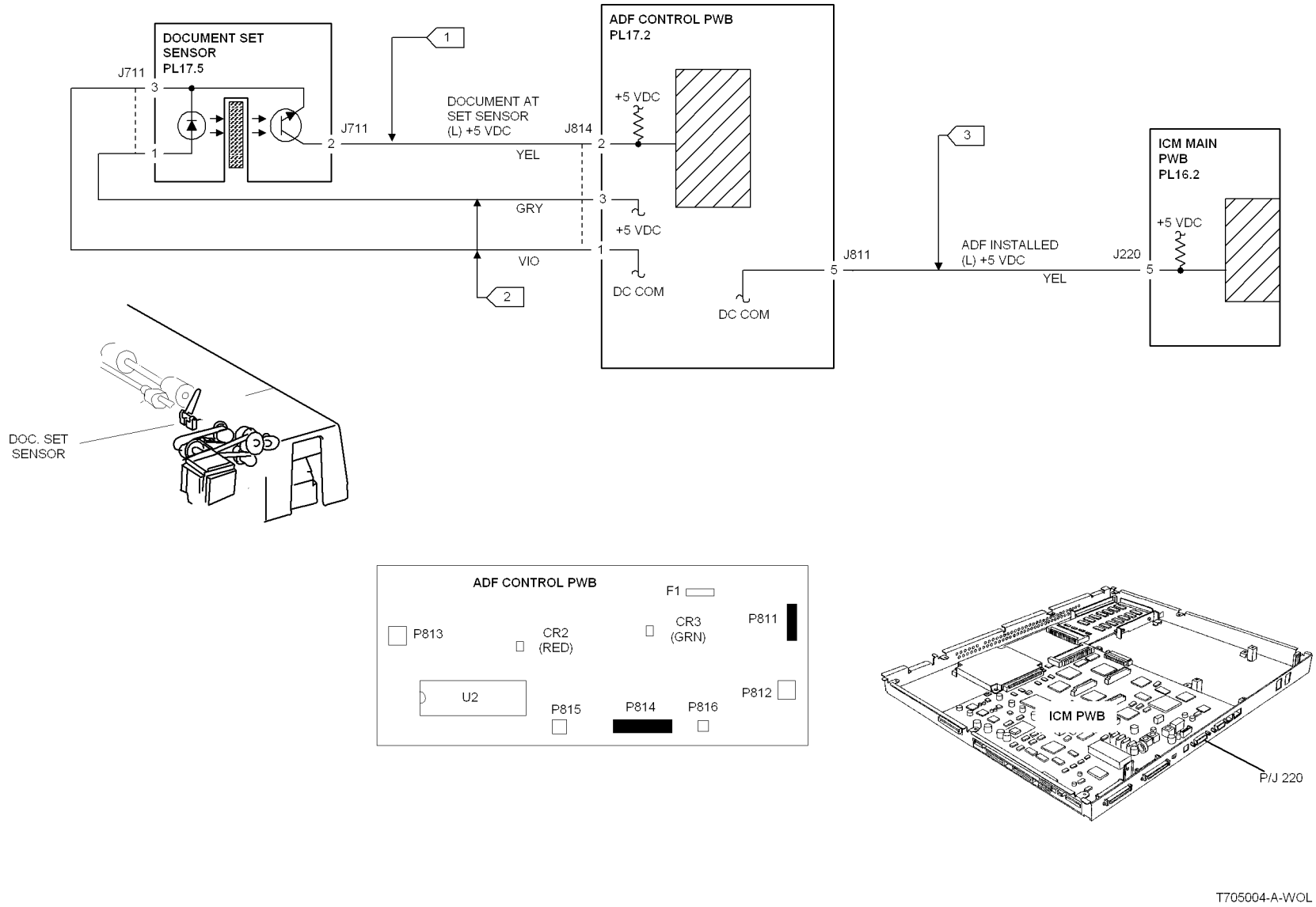
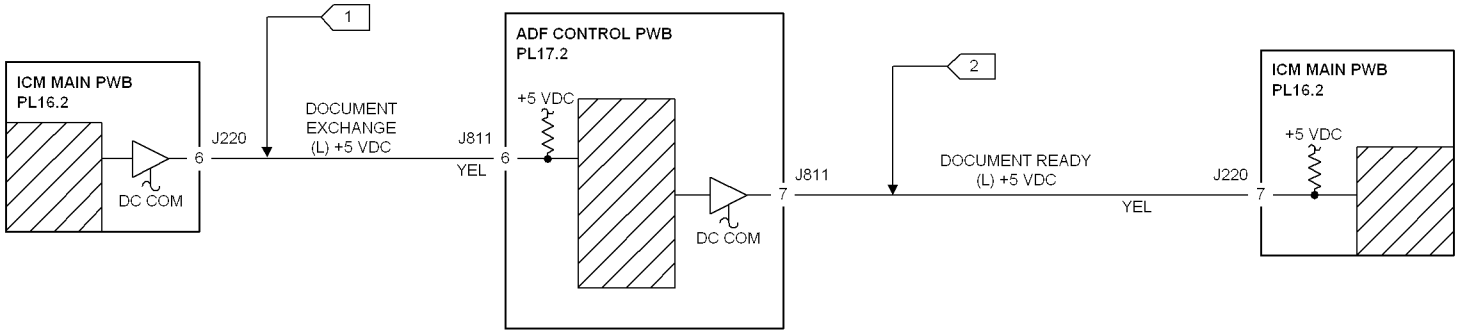


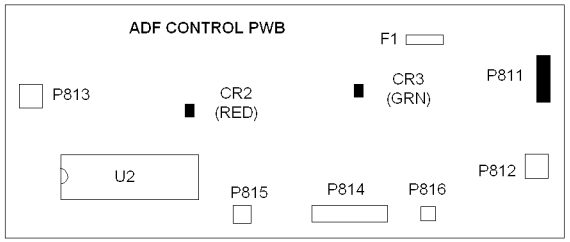

**Figure 1 005-703 RAP Circuit Diagram**

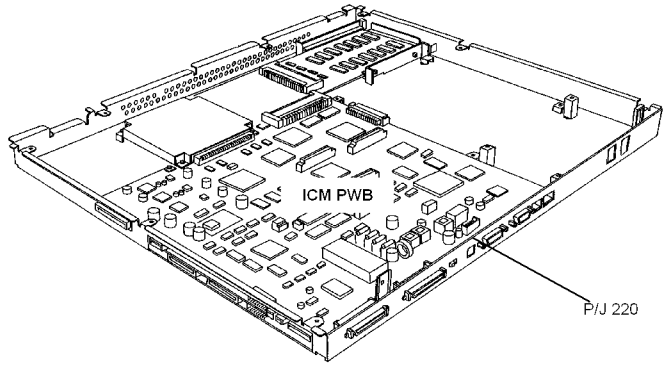
# 005-704 Unfinished Copy Job RAP

## Procedure

Go to Flag 1 and Flag 2. Check the wires for an open circuit. If the wires are OK, replace the ICM Main PWB (PL 16.2).




T705006-A-WOL

**Figure 1 005-704 RAP Circuit Diagram**

# 006-310 IIT Registration RAP

The Control Logic has not detected the signal IIT Registration Sensor Sensed (H) +5 VDC at the correct time.

## Initial Actions

Check the Carriage Motor drive components, including the Belt (PL 16.4) and the Front and Rear Cables (PL 16.4).

## Procedure

Switch off the power. Disconnect the power cord. Remove the IIT Rear Cover (REP 6.4). Remove the IIT Right Cover (REP 6.2). Disconnect P/J 110 (Carriage Motor connector) from the ICM Main PWB. Turn the bronze flywheel on the Carriage Motor ia a CW direction in order to drive the Carriage all the way to the right (as viewed from the rear of the IIT). Connect the power cord and switch on the power. **+5 VDC is measured at P 130-8 to frame.**

**Y N**

Go to Flag 1. Check the wire for a short circuit to ground. If the wire is good, replace the IIT Registration Sensor (PL 16.1).

While monitoring the voltage a P/J 130-8, turn the flywheel CCW. **The voltage at P/J130-8 goes to less than +1.0 VDC.**

**Y N**

Go to Flag 1 and Flag 2. Check the wires for an open circuit. If the wires are good, replace the IIT Registration Sensor (PL 16.1).

Switch off the power. Disconnect the power cord. Reconnect P/J 110. Switch on the power. **+24 VDC is measured at P/J110-1 and P/J110-2 to frame.**

**Y N**

Replace the ICM Main PWB (PL 16.2).

**+24 VDC is measured at P/J 130-3, P/J130-4, P/J130-5, and P/J130-6 to frame.**

**Y N**

Go to Flag 3. Check the wires for an open circuit. If the wires are good, replace the Carriage Motor.

The problem seems to be intermittent. Go to Flag 1, Flag 2, and Flag 3. Check all connectors for loose or damaged pins. If the problem continues, replace the IIT Registration Sensor (PL 16.1). If the problem continues, replace the ICM Main PWB (PL 16.2).

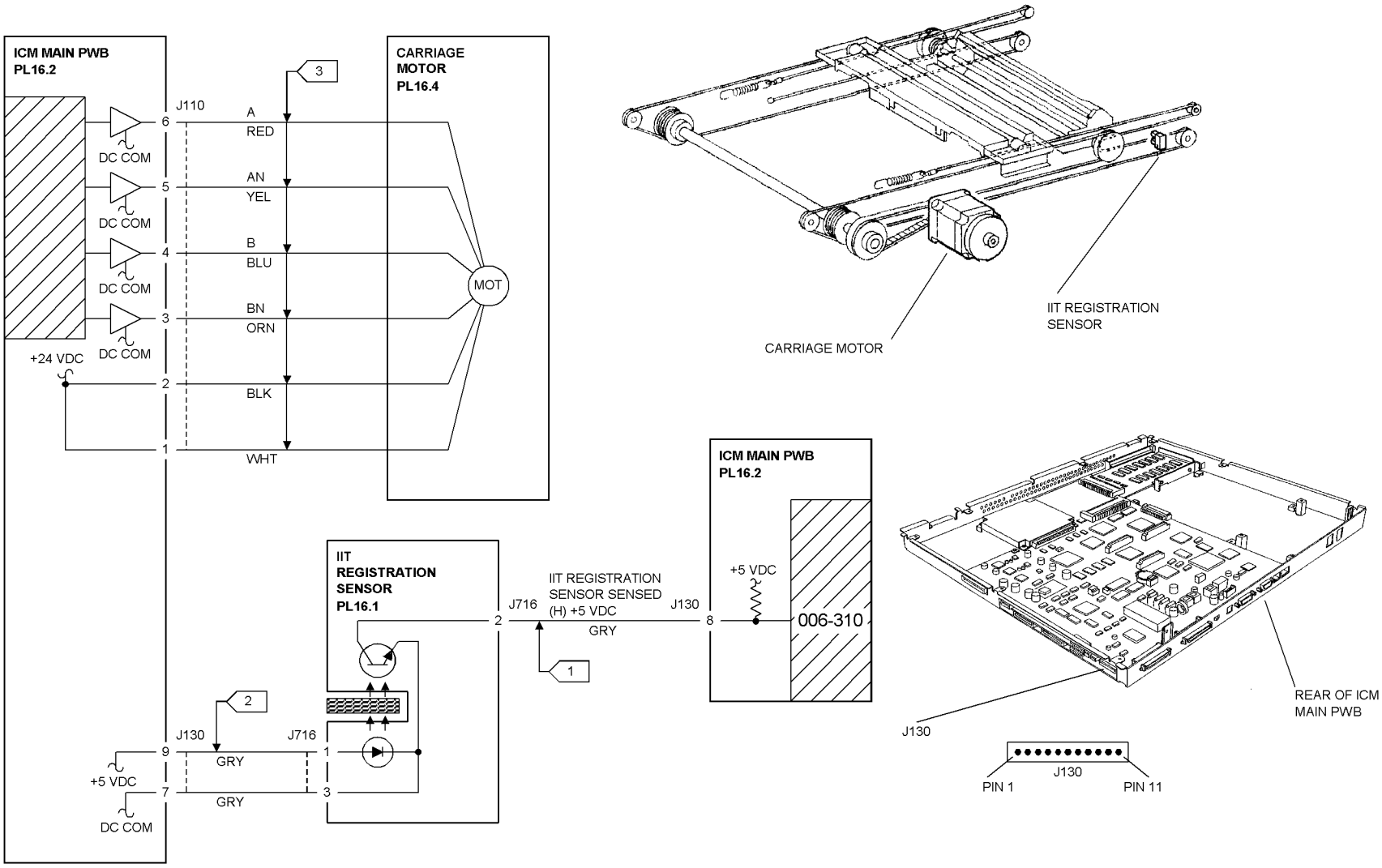



**Figure 1 006-310 RAP Circuit Diagram**

# 006-311 Exposure Lamp RAP

The CCD does not detect any light from the Lamp.

## Initial Actions

Ensure that Mirrors 1, 2, and 3 (PL 16.5) are in place and not damaged or blocked with debris.

## Procedure

Access IIT Diagnostics from the IIT control panel. Enter code [330-001] and enter a value of 1 for parameter 1. Press the Start button. **The Lamp lights normally.**

**Y N**

Inspect the Ribbon Cable between the ICM Main and the FLPS PWB (PL 16.5). **The connections are good and the cable is not damaged.**

**Y N**

Re-seat the connectors. If the problem persists, replace the Ribbon Cable (PL 16.5).

Ensure that the Lamp's connector J535, is seated on the FLPS PWB (PL 16.5, item 17). **The Lamp Connector J535 is seated correctly.**

**Y N**

Re-seat the Lamp Connector J535. If the problem persists, replace the FLPS PWB (PL 16.5).

Inspect connector P/J 140 on the FPC CCD. **The connector appears securely connected and undamaged.**

**Y N**

Re-seat the connector. If the problem persists, replace the FPC Cable (PL 16.3).

Perform the following:

- Replace the Lamp (PL 16.5).
- Replace the ICM Main PWB (PL 16.2).
- Replace the FLPS PWB (PL 16.2).
- Replace the Scanner (PL TBD).

The problem may be intermittent. Check all cable and P/J connections between the ICM Main PWB and the other components in the circuit (Lamp, FLPS PWB, and CCD). Look for loose or damaged connectors or damaged wiring. Repair as required. If all connections and wiring appear in good condition, undamaged, and securely connected,
perform the following:

- Replace the Lamp (PL 16.5).
- Replace the ICM Main PWB (PL 16.2).
- Replace the FLPS PWB (PL 16.2).
- Replace the Scanner.

# 006-312 FPC CCD RAP

The FPC CCD does not provide the correct output when originals are scanned.

## Procedure

***NOTE:*** *The CCD is not field replaceable.*

If this Fault Code occurs, replace the following parts in the order shown:

1. The FPC Cable (PL 16.3).
2. The ICM Main PWB (PL 16.2).
3. The Scanner.

# 006-313 IIT Cooling Fans RAP

The Front or Rear Cooling Fan (or both Fans) failed to operate correctly. A Fan Fail error has been declared.

## Procedure

Remove the Right Cover REP 6.2. Access the IIT Self Diagnostics from the IIT control panel. Enter code [330-001], and enter a value of 4 for parameter 1. Press the Start button. **The Rear Fan operates normally.**

**Y N**

Disconnect connector J 151 from the ICM Main PWB. **+24 VDC is measured between J151 pin 1 (+) and pin 3 (-) on the ICM Main PWB,**

**Y N**

Replace the ICM Main PWB (PL 16.2).

Replace the Rear Fan (PL 16.1).

**The Front Fan operates normally.**

**Y N**

Disconnect connector J 150 (Blue) on the ICM Main PWB. **+24 VDC is measured between J150 pin 1 (+) and pin 3 (-) on the ICM Main PWB,**

**Y N**

Replace the ICM Main PWB (PL 16.2).

***NOTE:*** *Remove the Platen Cover for easier access to intermediate connector J 150A/B.*

Reconnect connector J 150 on the ICM Main PWB. Disconnect connector J150A. **+24 VDC is measured between J150A pin 1 (+) and pin 3 (-).**

**Y N**

Go to Flag 1. Check for an open circuit or a short circuit to ground. Repair or replace the wiring as required.

Replace the Front Fan (PL 16.1).

If both Fans operate normally, but the Fault Code persists, go to Flag 2. **+5 VDC is measured between J 151-2 and GND.**

**Y N**

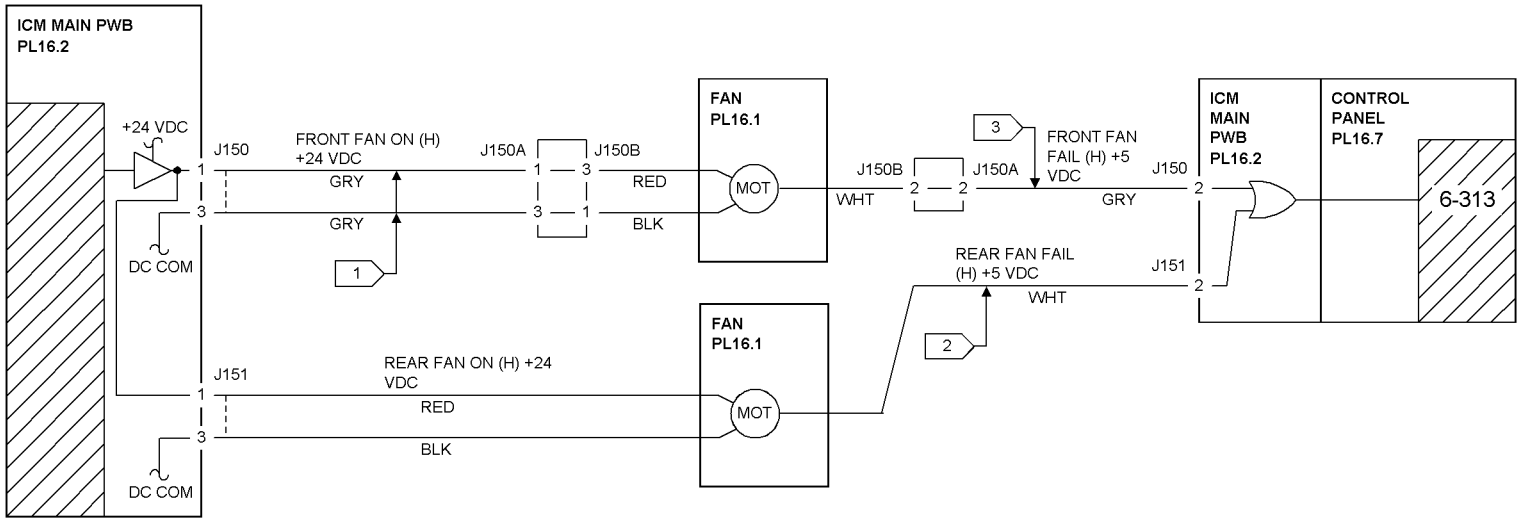
Go to Flag 3. **+5 VDC is measured between J 150-2 (Grey wire) and GND.**

**Y N**

The problem may be intermittent. Go to Figure 1. Check for loose or damaged connections or damaged wires. If the wiring is OK, replace the Fans (PL 16.1) one at a time. If the problem persists, replace the ICM Main PWB (PL 16.2).

Replace the Front Fan (PL 16.1). If the problem persists, replace the ICM Main PWB (PL 16.2).

Replace the Rear Fan (PL 16.1). If the problem persists, replace the ICM Main PWB (PL 16.2).



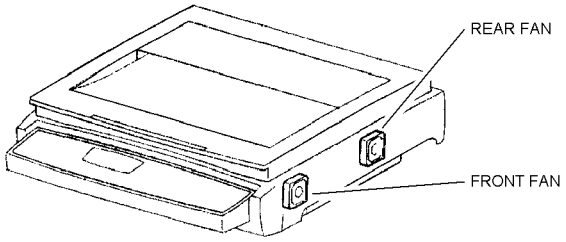




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**Figure 1 006-313 RAP Circuit Diagram**

# 006-372 Start of Scan Error RAP

During or after warm-up, the Start of Scan (SOS) signal is longer than specified.

## Procedure

Switch off the power. Remove the IOT Top Cover Assembly (REP 14.4). Remove the Controller Chassis (REP 1.11). Switch on the power. Cheat the Top Cover Interlock. **Approximately +4 VDC is measured between J 14-11 and J14-10 on the MCU PWB.**

**Y N**

Go to Flag 1 and check the wire for a short circuit to ground. If the wire is good, replace the MCU PWB (PL 11.2).

**+24 VDC is measured between J 14-13 and J14-10 on the MCU PWB.**

**Y N**

Replace the MCU PWB (PL 11.2).

Switch off the power. Remove the ROS Cover. Disconnect J 123 from the ROS. Measure the resistance between the following plug/jack pins:

- P/J 14-11 on the MCU PWB to J123-3
- P/J14-13 on the MCU PWB to J123-1
- P/J14-12 on the MCU PWB to J123-2
- P/J14-10 on the MCU PWB to J123-4

**All the measurements are less than 1.0 Ohm.**

**Y N**

Go to Flag 1 and Flag 2. Check the wires for an open circuit.

Reconnect J 123. Switch on the power. **+5 VDC is measured at J 125-1 on the ROS.**

**Y N**

Go to the 001-705 ROS +5 VDC Switched Voltage RAP.

Switch off the power. Disconnect J 121 from the ROS. Measure the resistance between the following plug/jack pins:

- J 14-5 on the MCU PWB to J121-3
- J14-4 on the MCU PWB to J121-4
- J14-7 on the MCU PWB to J121-1

**All measurements are less than 1.0 Ohm.**

**Y N**

Go to Flag 3 and check the wires for an open or short circuit.

Replace the ROS (PL 5.1). If the problem continues, replace the MCU PWB (PL 11.2).

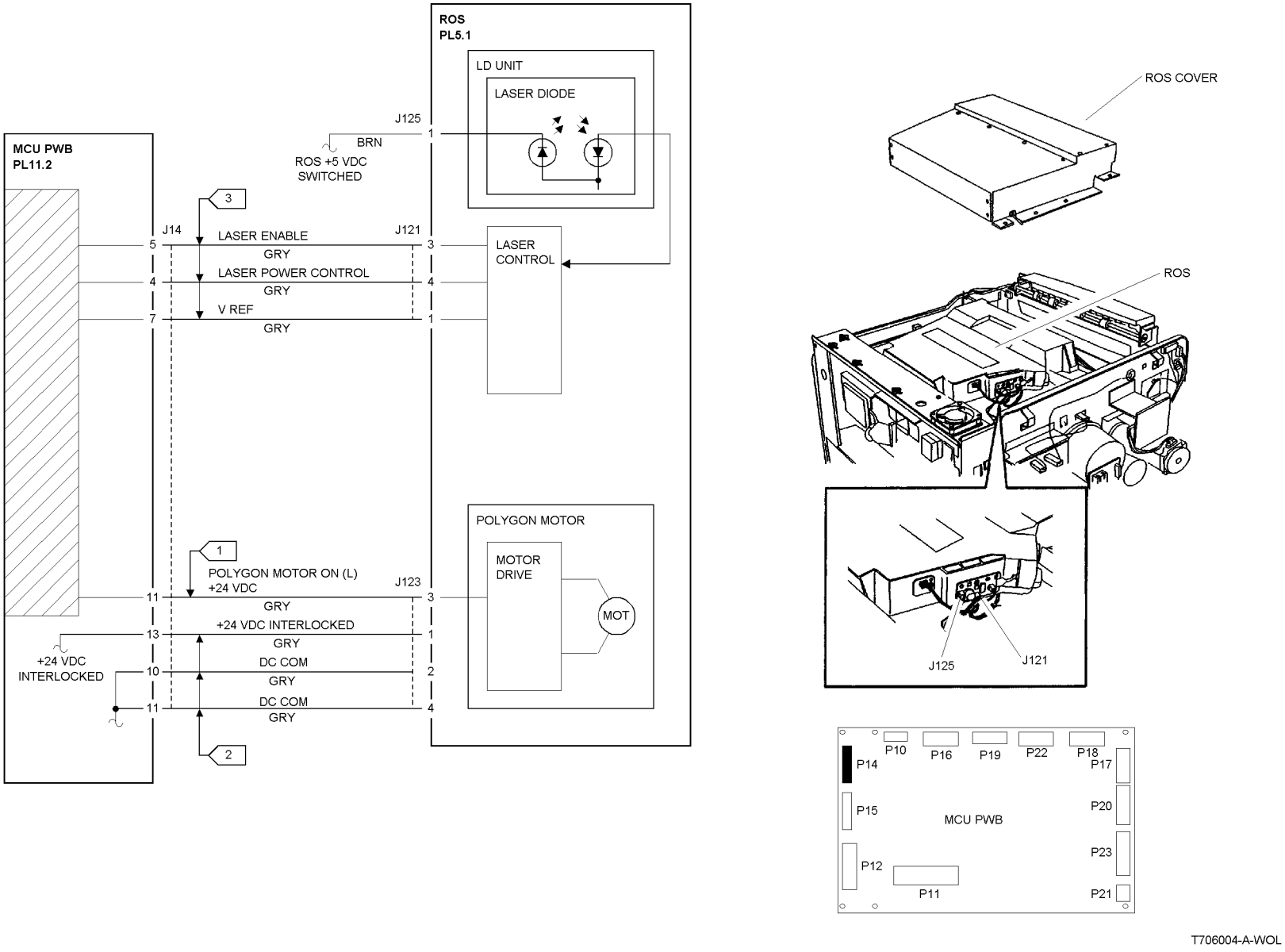



**Figure 1 006-372 RAP Circuit Diagram**

# 006-701 Angle Sensor RAP

The Angle Sensor circuit has failed to operate correctly.

## Initial Actions

## Procedure

Remove the Rear Cover REP 6.4. Disconnect connector J 130 from the ICM Main PWB. **+5 VDC is measured between J130 pin 2 and pin 1 on the ICM Main PWB.**

**Y N**

Replace the ICM Main PWB (PL 16.2).

Reconnect connector J 130 to the ICM Main PWB. **+5 VDC is measured between J130 pin 2 and pin 1.**

**Y N**

Go to Flag 2. Check for a short circuit to ground. If the wiring is OK, replace the Angle Sensor (PL 16.1).

Actuate the Angle Sensor. **The measured voltage drops to approximately +1.2 VDC or less.**

**Y N**

Go to Flag 1. Check for an open circuit or a short circuit to ground. If the wiring is OK, replace the angle sensor (PL 16.1). If the problem persists, replace the replace the ICM Main PWB (PL 16.2).

The problem may be intermittent. Go to Figure 1. Check for loose or damaged connections or damaged wires. If the wiring is OK, replace the Angle Sensor (PL 16.1). Of the problem persists, replace the ICM Main PWB (PL 16.2).

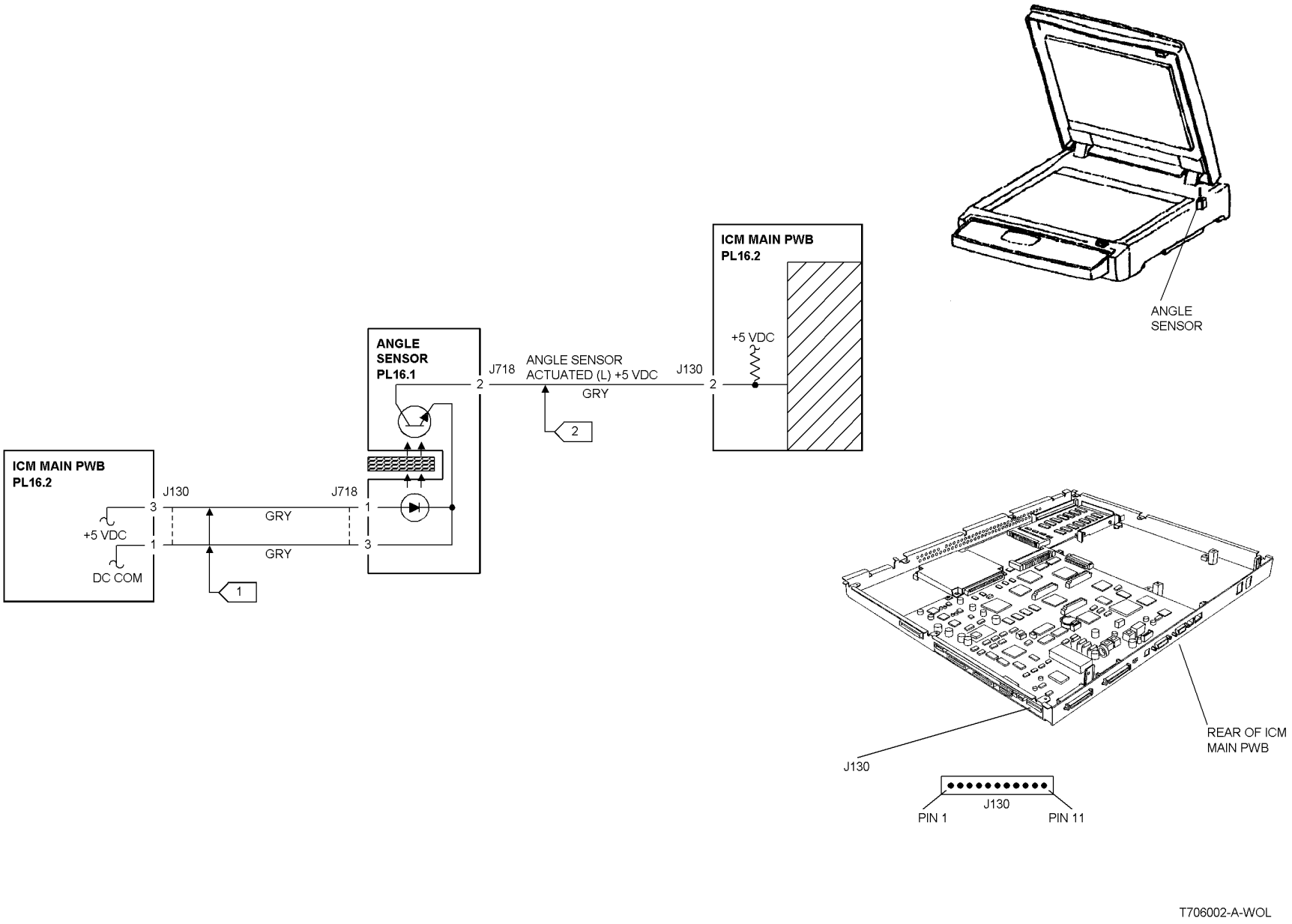



**Figure 1 006-701 RAP Circuit Diagram**

# 006-702 Platen Switch RAP

The Platen Switch circuit has failed to operate correctly.

## Initial Actions

Visually check to ensure that the magnet that actuates the Platen Switch is securely in place.

## Procedure

Remove the Rear Cover REP 6.4. Disconnect connector P/J 719. **+5 VDC is measured between** P/J 719 **pin 1 GND (DC Common).**

**Y N**

Go to Flag 1. Check for an open circuit or a short circuit to ground. If the wiring is OK, replace the ICM Main PWB (PL 16.2).

**Continuity is measured between J 719 pins 1 and 2 with the Platen Open.**

**Y N**

Replace the Platen Switch (PL 16.1).

**An open circuit is measured between J 719 pins 1 and 2 with the Platen Closed.**

**Y N**

Replace the Platen Switch (PL 16.1).

Go to Flag 2. **Continuity is measured between J 719 pin 2 and J130 pin 10 on the ICM Main PWB.**

**Y N**

Repair or replace the wiring as required. If the problem persists, replace the Platen Switch (PL 16.1). If the problem still persists, replace the ICM Main PWB (PL 16.2).

The problem may be intermittent. Go to Figure 1. Check for loose or damaged connections or damaged wires. If the wiring is OK, replace the Angle Sensor (PL 16.1). Of the problem persists, replace the ICM Main PWB (PL 16.2).

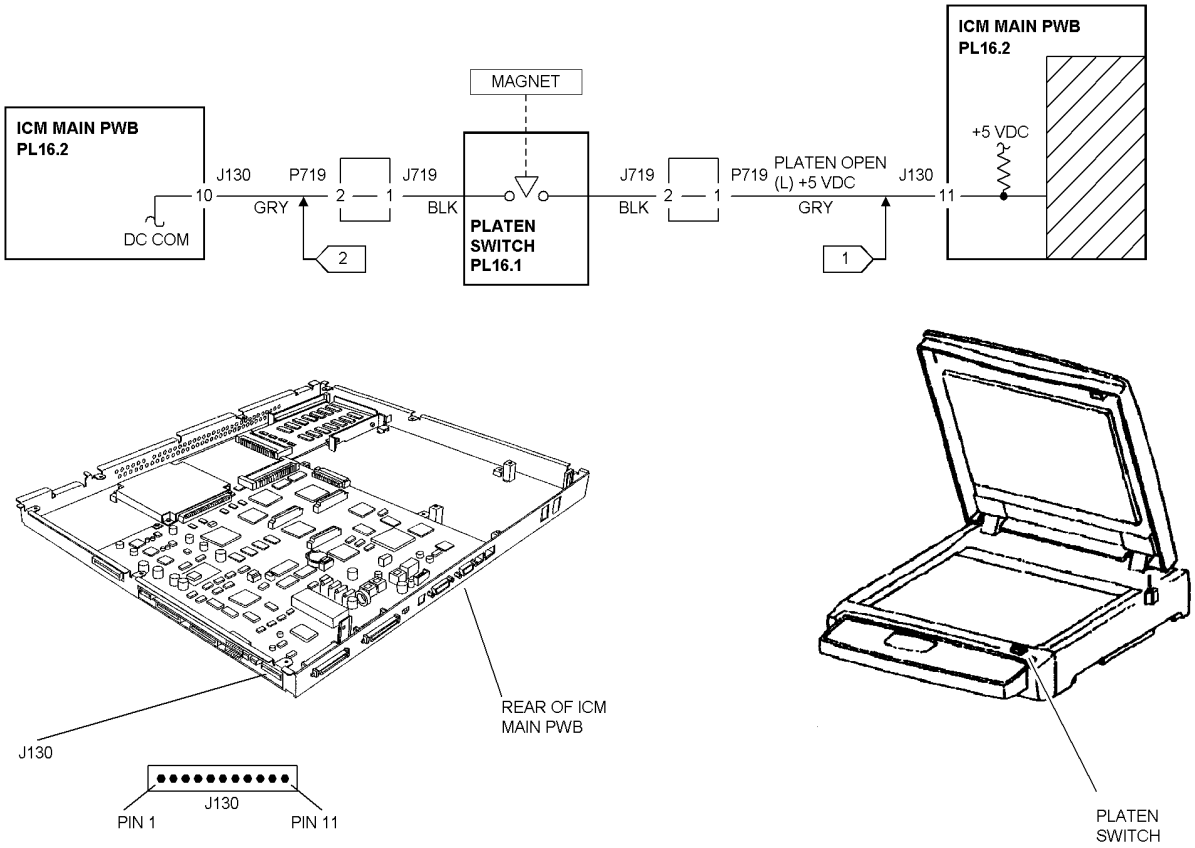



**Figure 1 006-702 RAP Circuit Diagram**

## 006-703 Scanner Error RAP

### Procedure

Switch the power off, then on. If the fault remains, replace the IPS PWB (PL 16.2). If this does not resolve the problem, replace the ICM Main PWB (PL 16.2).

## 006-704 System Error (093-XXX) RAP

### Procedure

Ensure that the correct levels of firmware are installed for all components of the system. Reload if required (GP 8, GP 9, and GP 10). If reloading firmware does not resolve the problem, replace the ICM Main PWB (PL 16.2).

# 006-906/907/908/909 RAP

**006-906**: Control Logic detected an AOC1 error at job start or initialization.

**006-907**: Control Logic detected an AGC error.

**006-908**: Control Logic detected an OE Pixel Judgement error.

**006-909**: Control Logic detected an Auto Gradation correction error.

## Procedure

Check the wiring and connections to the IIT Lamp (PL 16.5). If the wires are OK, replace the Lamp. If the fault remains, replace the ICM Main PWB (PL 16.2).

# 007-324 Environment Sensor RAP

The control logic has detected an open circuit in the Environment Sensor.

## Initial Actions

- Ensure that the Environment Sensor is free of dust and dirt.

## Procedure

Switch off the power. Disconnect the power cord. Go to REP 1.8, and remove the Duplex Tray Assembly from the copier/printer. Check that the P/J 105 connector on the Environment Sensor board is properly connected. **The P/J 105 connector is good.**

**Y N**

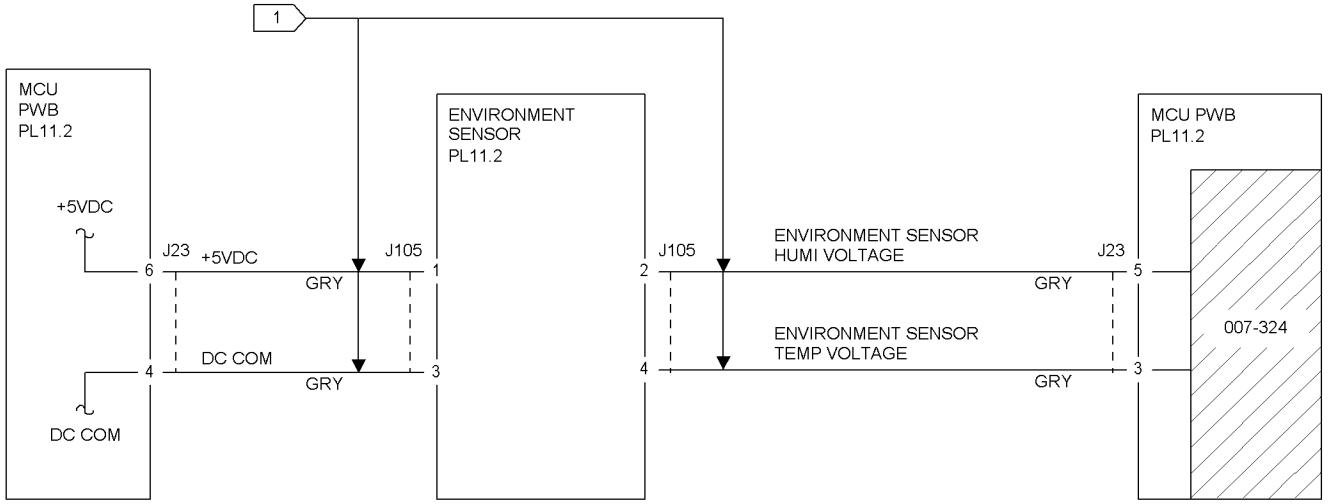
Connect the P/J 105 connector. Connect the power cord and switch on the power.

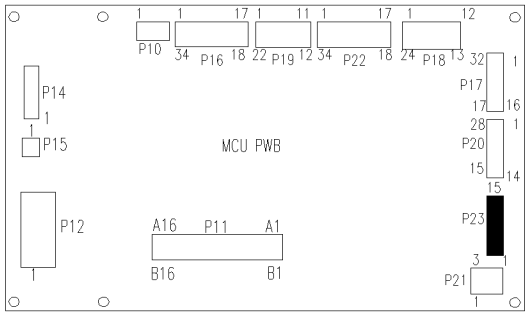
Go to REP 1.11, and remove the Controller Chassis to gain access to the MCU PWB connectors. Go to Flag 1. Check the wires for an open or a short circuit to ground. **The wires are good.**

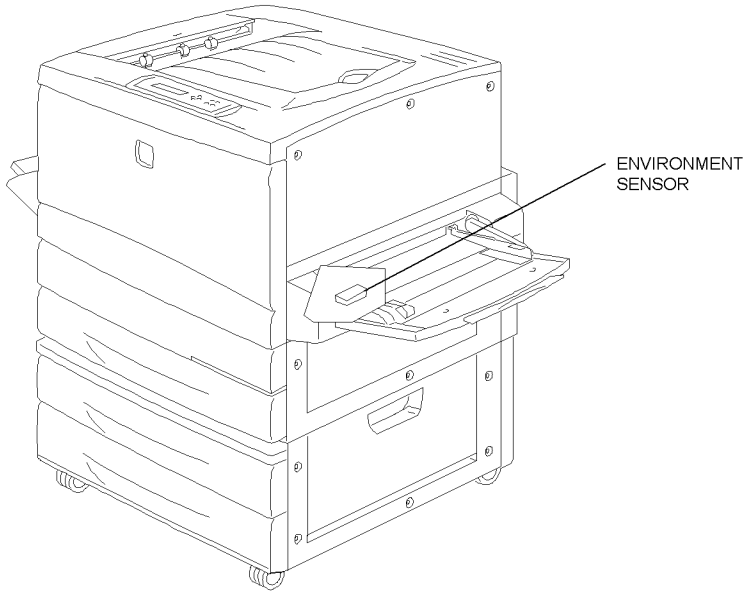
**Y N**

Repair the wires. Connect the power cord and switch on the power.

Replace the Environment Sensor (PL 11.2). Connect the power cord and switch on the power. If the problem continues, replace the MCU PWB (PL 11.2).




0707005A-WOL

**Figure 1 007-324 RAP Circuit Diagram**

# 007-340 Feeder Motor Fail RAP

The control logic has detected the signal, Feeder Motor Fail (H) +5 VDC.

## Procedure

Enter [DO-B8]. **The Feeder Motor is operating.**

**Y** **N**

**There is +24 VDC from J 213 pin 1 on the Feeder PWB to printer frame.**

**Y** **N**

Go to Flag 1. Check the wires for an open or a short circuit to ground. Repair the wires.

Enter [DO-B8]. **There is 0 VDC from J 217 pin 12 to printer frame.**

**Y** **N**

Replace the Feeder PWB (PL 13.4).

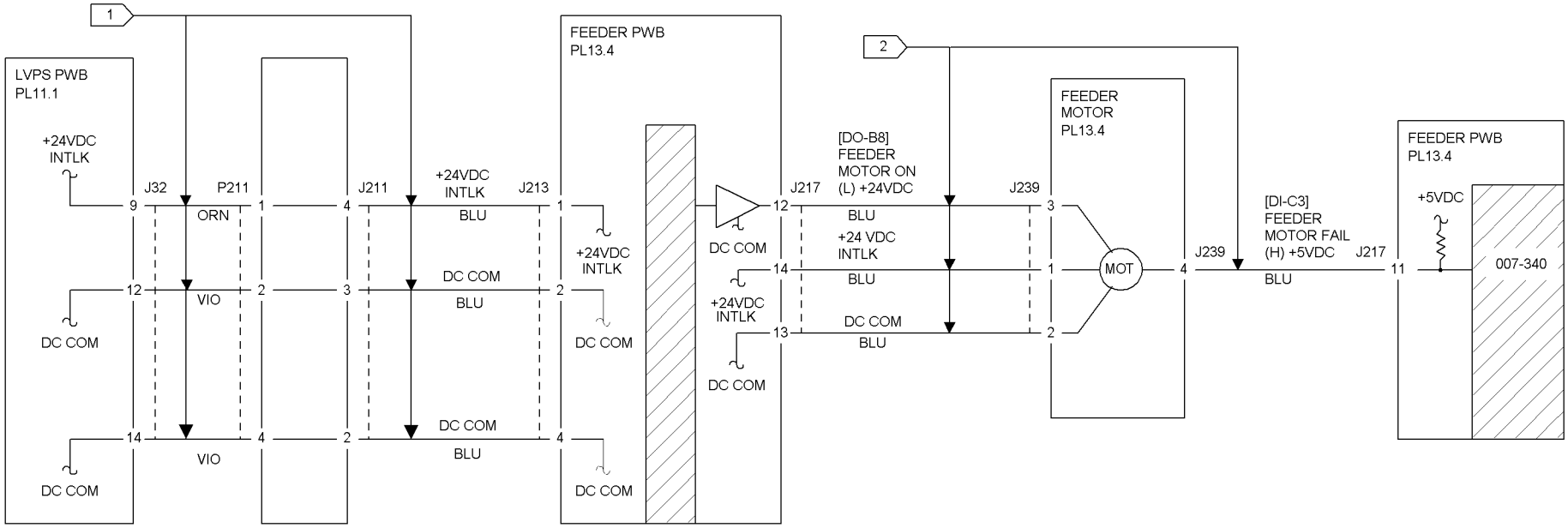
Replace the Feeder Motor (PL 13.4). If the problem continues, replace the Feeder PWB (PL 13.4).

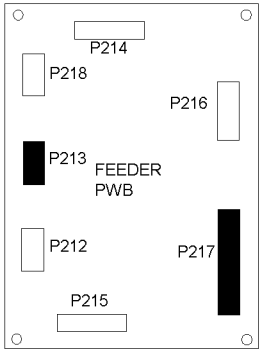
**There is 0 VDC from J 239 pin 4 to printer frame.**

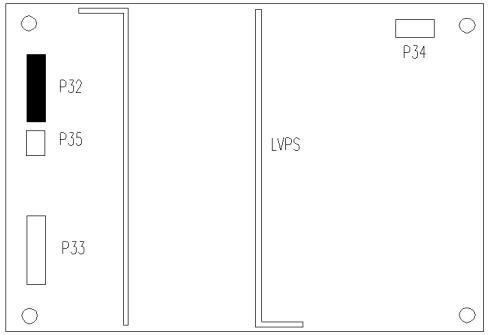
**Y** **N**

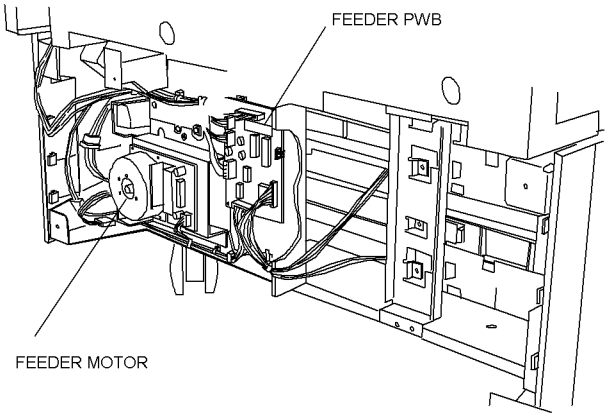
Go to Flag 2. Check the wire for an open circuit. If the wire is bad, repair it. If the wire is good, replace the Feeder Motor (PL 13.4), (REP 8.20).

Replace the Feeder PWB (PL 13.4).




0707004A-WOL

**Figure 1 007-340 RAP Circuit Diagram**

# 007-341 Inverter Motor Fail RAP

The Control Logic has detected an Inverter Motor Fail (H) +5 VDC signal.

## Initial Actions

Ensure that the Upper and the Lower Inverter Assemblies are properly closed.

## Procedure

Enter diagnostic code [DO-A0]. **The Inverter Motor operates.**

**Y N**

**There is +24 VDC from J 139 pin 9 to printer frame.**

**Y N**

**There is +24 VDC from J 142 Pin 16 to printer frame.**

**Y N**

Go the Flag 2. Check the wires for an open or short circuit to ground. If the wires are good, replace the MCU PWB (PL 11.2).

Go to Flag 1. Check the wires for an open or a short circuit to ground. If the wires are good, replace the Duplex Controller PWB (PL 15.6). If the problem continues, replace the Inverter Motor (PL 15.6).

**There is 0 VDC from J 139 pin 7 to printer frame.**

**Y N**

Replace the Duplex Controller PWB (PL 15.6).

Go to Flag 1. Check the wires for and open circuit. **The wires are good.**

**Y N**

Repair the wires.

Replace the Inverter Motor (PL 15.5).

**There is 0 VDC from Inverter Motor J 147 pin 4 to the printer frame.**

**Y N**

Replace the Duplex Controller PWB (PL 15.6).

Check the Drive Mechanism, gears and pulleys for missing teeth and proper function. If the gears are good, Replace the Inverter Motor (PL 15.5).

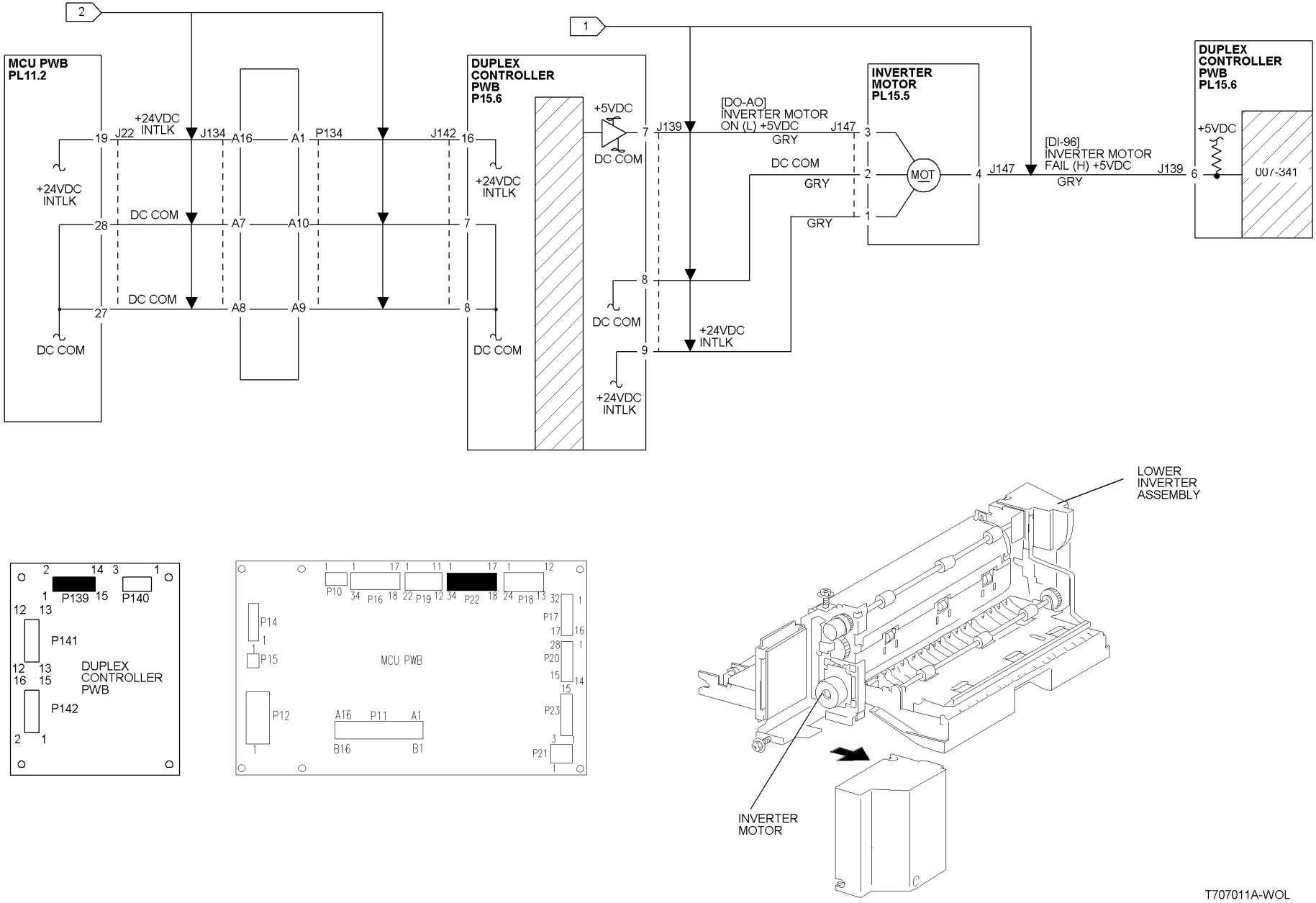



**Figure 1 007-341 RAP Circuit Diagram**

# 007-700 Tray 1 Open RAP

The Control Logic detected the absence of the analog signal Size Switch Sensed Voltage for Tray 1.

## Initial Actions

Ensure that Paper Tray 1 is closed.

## Procedure

**The Paper Tray is properly seated and fully closed.**

**Y N**

Perform the following:

- Inspect the paper tray rails and cavity for obstructions.
- Inspect the paper tray paper end guide for proper operation. If the end guide does not operate the Size Actuator replace the Paper Tray (PL 2.1).

Remove the Size Switch PWB REP 7.1. Do not disconnect the connectors on the Size Switch PWB. Place the Size Switch PWB so that it does not short circuit to the machine frame. Reinstall the Tray 1 Size Switch Bracket (PL 3.1). Reinstall the Low Voltage Power Supply. Connect the Power Cord. Switch on the power. **There is +0.24 VDC from J 102 pin 1 on the Size Switch PWB and GND.**

**Y N**

Go to Flag 1. Check the wires for an open or a short circuit to ground. **The wires are good.**

**Y N**

Repair the wires. Ensure that PJ 16 on the MCU PWB and PJ 102 on the Size Switch PWB are properly connected.

**There is +5 VDC from J 102 pin 2 on the Size Switch PWB to ground.**

**Y N**

Go to Flag 2. Check the wire for an open or short circuit to ground. **The wires are good.**

**Y N**

Repair the wires.

Replace the MCU PWB (PL 11.2).

Replace the Size Switch PWB (PL 3.1).

Press and hold switch number SW1 and SW3 on the Size Switch PWB. **There is +2.67 ± 0.10 VDC from J 102 pin 1 on the Size Switch PWB to GND.**

**Y N**

**There is +5 VDC from J 102 pin 2 on the Size Switch PWB to ground.**

**Y N**

Go to Flag 2. Check the wire for an open or short circuit to ground. **The wires are good.**

**Y N**

Repair the wires. Ensure the connector PJ 102 is properly connected.

Replace the MCU PWB (PL 11.2).

**A B**

**A B**

Replace the Size Switch PWB (PL 3.1).

Press and hold switch number SW2 and SW4 on the Size Switch PWB. **There is +2.43 ±0.10 VDC from J 102 pin 1 on the Size Switch PWB to ground.**

**Y N**

**There is +5 VDC from J 102 pin 2 on the Size Switch PWB to ground.**

**Y N**

Go to Flag 2. Check the wire for an open or short circuit to ground. **The wires are good.**

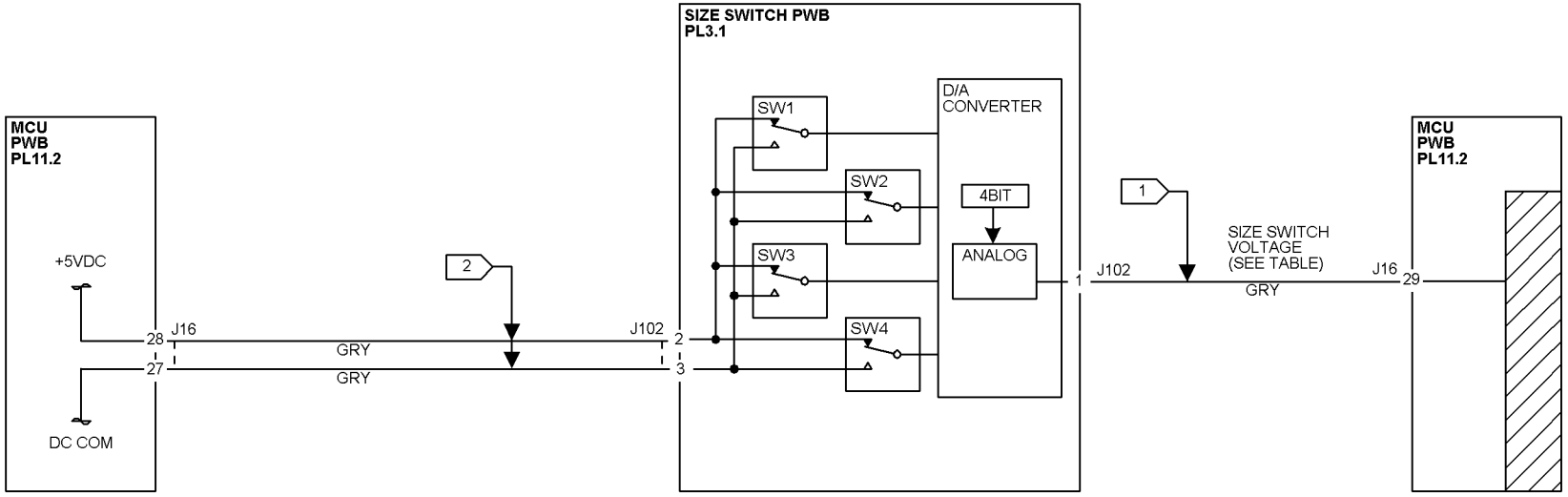
**Y N**

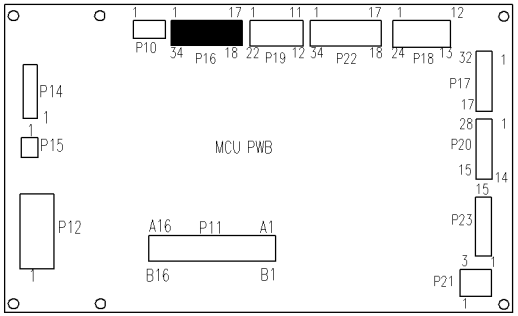
Repair the wires. Ensure the connector PJ 102 is properly connected.

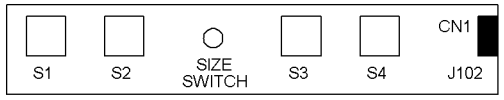
Replace the MCU PWB (PL 11.2).

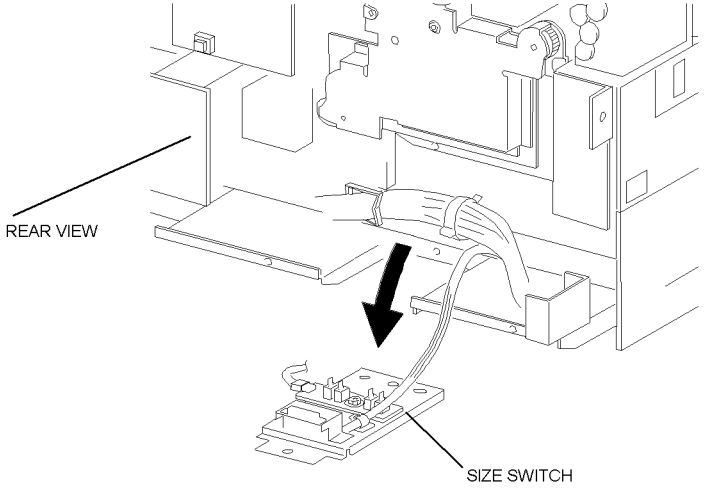
Replace the Size Switch PWB (PL 3.1).

Replace the MCU PWB (PL 11.2).




T707013A-WOL

**Figure 1 007-700 RAP Circuit Diagram**

# 007-701 Tray 2 Open RAP

The Control Logic detected the absence of the analog signal Size Switch Sensed Voltage for Tray 2.

## Initial Actions

Ensure that Paper Tray 2 is closed.

## Procedure

**The Paper Tray is properly seated and fully closed.**

**Y N**

Perform the following:

- Inspect the paper tray rails and cavity for obstructions.
- Inspect the paper tray paper end guide for proper operation. If the end guide does not operate the Size Actuator replace the Paper Tray (PL 13.9).

Remove the Size Switch PWB REP 8.19. Do not disconnect the connectors on the Size Switch PWB. Place the Size Switch PWB so that it does not short to the machine frame. Connect the Power Cord. Switch on the power. **There is +4.76 ±0.10 VDC from J 235 pin 2 on the Size Switch PWB and GND.**

**Y N**

Go to Flag 1. Check the wires for an open or a short circuit to ground. **The wires are good.**

**Y N**

Repair the wires. Ensure that PJ 217 on the Feeder PWB and PJ 235 on the Size Switch PWB are properly connected.

**There is +5 VDC from J 235 pin 1 on the Size Switch PWB to ground.**

**Y N**

Go to Flag 2. Check the wire for an open or short circuit to ground. **The wires are good.**

**Y N**

Repair the wires.

**A B C**

**A B C**

Replace the Feeder PWB (PL 13.4).

Replace the Size Switch PWB (PL 13.3).

Press and hold switch number SW1 and SW3 on the Size Switch PWB. **There is +1.57 ± 0.10 VDC from J 235 pin 2 on the Size Switch PWB to GND.**

**Y N**

**There is +5 VDC from J 235 pin 1 on the Size Switch PWB to ground.**

**Y N**

Go to Flag 2. Check the wire for an open or short circuit to ground. **The wires are good.**

**Y N**

Repair the wires. Ensure the connector PJ 235 is properly connected.

Replace the Feeder PWB (PL 13.4).

Replace the Size Switch PWB (PL 13.3).

Press and hold switch number SW2 and SW4 on the Size Switch PWB. **There is +3.13 ±0.10 VDC from J 235 pin 2 on the Size Switch PWB to ground.**

**Y N**

**There is +5 VDC from J 235 pin 1 on the Size Switch PWB to ground.**

**Y N**

Go to Flag 2. Check the wire for an open or short circuit to ground. **The wires are good.**

**Y N**

Repair the wires. Ensure the connector PJ 235 is properly connected.

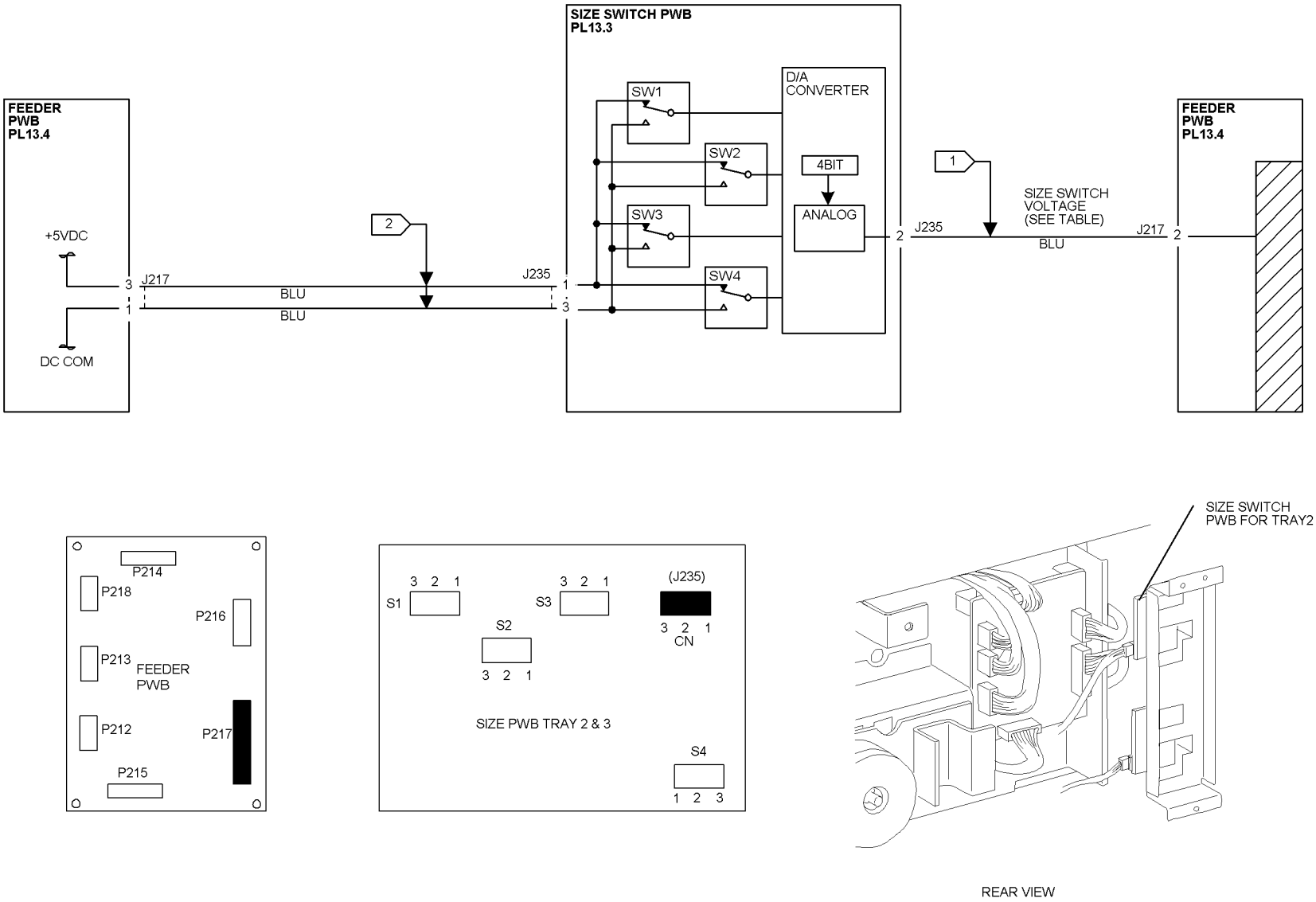
Replace the Feeder PWB (PL 13.4).

Replace the Size Switch PWB (PL 13.3).

Replace the Feeder PWB (PL 13.4).

**Table 1 Tray 2 Size Sensing Size Switch PWB**

| PAPER SIZE | | PAPER SIZE SW | | | ANALOG VOLTAGE OUT |
|---|---|---|---|---|---|
| | SW1 | SW2 | SW3 | SW4 | |
| Tray Out | OFF | OFF | OFF | OFF | (+) 4.76 VDC |
| Ledger (SEF) | OFF | ON | OFF | OFF | (+) 3.45 VDC |
| A3 (SEF) | ON | OFF | ON | OFF | (+) 1.57 VDC |
| Letter (LEF) | OFF | ON | ON | ON | (+) 2.49 VDC |
| B5 (LEF) | OFF | ON | OFF | ON | (+) 3.13 VDC |
| Legal (SEF) | OFF | OFF | ON | OFF | (+) 4.09 VDC |
| A4 (LEF) | OFF | OFF | ON | ON | (+) 3.77 VDC |
| B4 (SEF) | OFF | ON | ON | OFF | (+) 2.81 VDC |




T707015A-WOL

**Figure 1 007-701 RAP Circuit Diagram**

# 007-702 Tray 3 Open RAP

The Control Logic detected the absence of the analog signal Size Switch Sensed Voltage for Tray 3.

## Initial Actions

Ensure that Paper Tray 3 is closed.

## Procedure

**The Paper Tray is properly seated and fully closed.**

**Y N**

Perform the following:

- Inspect the paper tray rails and cavity for obstructions.
- Inspect the paper tray paper end guide for proper operation. If the end guide does not operate the Size Actuator replace the Paper Tray (PL 14.2).

Switch off the power. Disconnect the Power Cord. Remove the Size Switch PWB (PL 13.3). Do not disconnect the connectors on the Size Switch PWB. Place the Size Switch PWB so that it does not short circuit to the machine frame. Connect the Power Cord. Switch on the power. **There is +4.76 ±0.10 VDC from J 236 pin 2 on the Size Switch PWB and GND.**

**Y N**

Go to Flag 1. Check the wires for an open or a short circuit to ground. **The wires are good.**

**Y N**

Repair the wires. Ensure that PJ 217 on the Feeder PWB and P**J** 236 on the Size Switch PWB are properly connected.

**There is +5 VDC from J 236 pin 1 on the Size Switch PWB to ground.**

**Y N**

Go to Flag 2. Check the wire for an open or short circuit to ground. **The wires are good.**

**Y N**

Repair the wires.

**A B C**

**A B C**

Replace the Feeder PWB (PL 13.4).

Replace the Size Switch PWB (PL 13.3).

Press and hold switch number SW1 and SW3 on the Size Switch PWB. **There is +1.57 ± 0.10 VDC from J 236 pin 2 on the Size Switch PWB to GND.**

**Y N**

**There is +5 VDC from J 236 pin 1 on the Size Switch PWB to ground.**

**Y N**

Go to Flag 2. Check the wire for an open or short circuit to ground. **The wires are good.**

**Y N**

Repair the wires. Ensure the connector **J** 236 is properly connected.

Replace the Feeder PWB (PL 13.4).

Replace the Size Switch PWB (PL 13.3).

Press and hold switch number SW2 and SW4 on the Size Switch PWB. **There is +3.13 ±0.10 VDC from J 236 pin 2 on the Size Switch PWB to ground.**

**Y N**

**There is +5 VDC from J 236 pin 1 on the Size Switch PWB to ground.**

**Y N**

Go to Flag 2. Check the wire for an open or short circuit to ground. **The wires are good.**

**Y N**

Repair the wires. Ensure the connector P**J** 236 is properly connected.

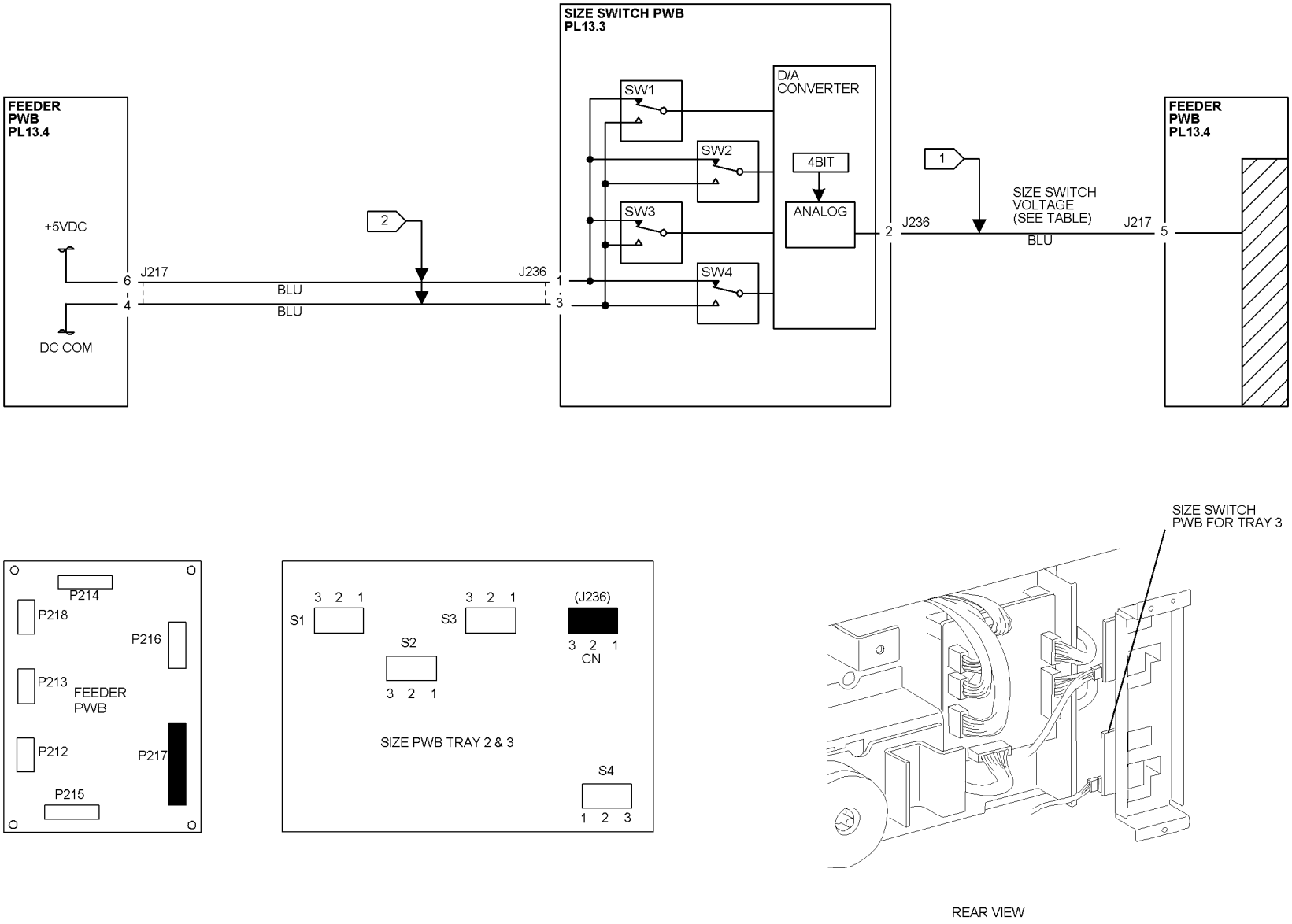
Replace the Feeder PWB (PL 13.4).

Replace the Size Switch PWB (PL 13.3).

Replace the Feeder PWB (PL 13.4).

**Table 1 Tray 3 Size Sensing Size Switch PWB**

| PAPER SIZE | | PAPER SIZE SW | | | ANALOG VOLTAGE OUT |
|---|---|---|---|---|---|
| | SW1 | SW2 | SW3 | SW4 | |
| Tray Out | OFF | OFF | OFF | OFF | (+) 4.76 VDC |
| Ledger (SEF) | OFF | ON | OFF | OFF | (+) 3.45 VDC |
| A3 (SEF) | ON | OFF | ON | OFF | (+) 1.57 VDC |
| Letter (LEF) | OFF | ON | ON | ON | (+) 2.49 VDC |
| B5 (LEF) | OFF | ON | OFF | ON | (+) 3.13 VDC |
| Legal (SEF) | OFF | OFF | ON | OFF | (+) 4.09 VDC |
| A4 (LEF) | OFF | OFF | ON | ON | (+) 3.77 VDC |
| B4 (SEF) | OFF | ON | ON | OFF | (+) 2.81 VDC |




T707014A-WOL

**Figure 1 007-702 RAP Circuit Diagram**

# 007-703 Tray 1 Empty RAP

The Tray 1 No Paper Sensed signal is detected by the control logic.

## Initial Actions

- Check that the Tray 1 Lift Plate functions without binding.
- Ensure the Tray 1 is filled with 250 sheets of paper.
- Ensure paper is properly loaded in the Tray.
- Ensure the paper Tray is closed.

## Procedure

Check that the actuator on the No Paper Sensor for Tray 1 functions properly. The Actuator is good.

**Y N**

Replace the Tray 1 No Paper Actuator (PL 3.1).

Enter diagnostic code [DI-60]. **The display indicates a "1".**

**Y N**

**There is +5 VDC from J 101-3 to J 101-4.**

**Y N**

Go to Flag 1. Check the wires and connector PJ 101 from the No Paper Sensor to the MCU PWB for and open circuit or a short circuit to ground. replace the MCU PWB (PL 11.2). **The wires are good.**

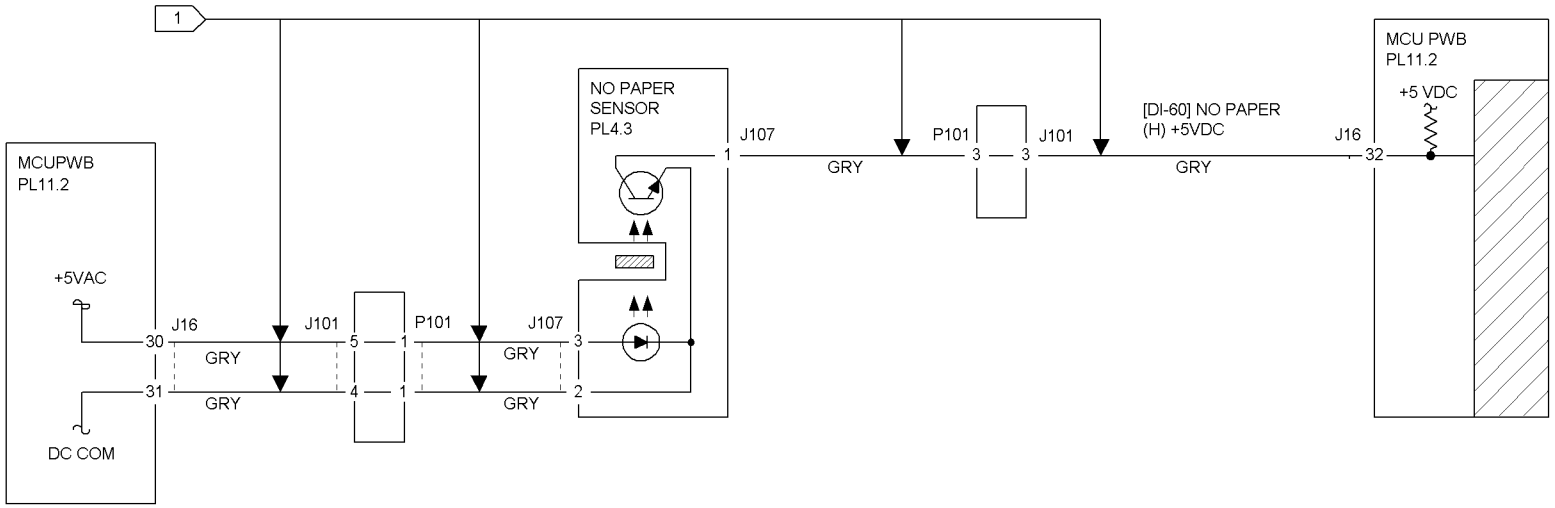
**Y N**

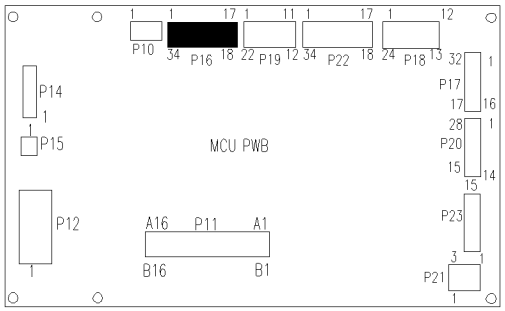
Repair the wires.

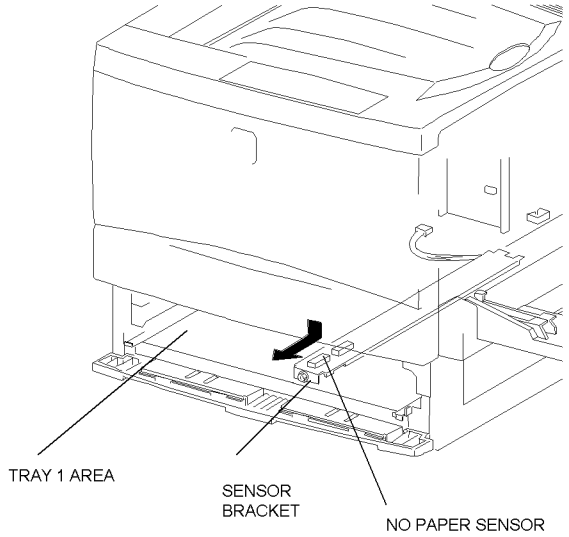
Replace the No Paper Sensor (PL 4.3). If the problem continues, replace the MCU PWB (PL 11.2).

Replace the MCU PWB (PL 11.2).

Go to Flag 1. Check the wires from the MCU PWB to the No Paper Sensor for an open or a short circuit to ground. If the wires are good, replace the MCU PWB (PL 11.2).




T707001A-WOL

**Figure 1 007-703 RAP Circuit Diagram**

# 007-704 Tray 2 Empty RAP

The Control Logic detected the signal, No Paper Sensed (H) +5VDC.

## Initial Actions

- Put paper into Tray 2 and ensure that the paper is loaded properly.

## Procedure

Remove paper from Tray 2. Check that the No Paper actuator is operating properly. **The actuator is present and operates smoothly.**

**Y N**

Replace the No Paper Sensor Actuator (PL 13.5).

Access the Digital Input (DI) Test from the control panel. Enter code [DI-A4]. Press the Enter button. **The display is "1".**

**Y N**

Check the following:

- Go to Flag 1. Check the wires for an open circuit
- Go to Flag 2. Check the wires for an open or a short circuit to ground.
- If the wires are good, replace the No Paper Sensor (PL 13.5).

Put 200 sheets of paper into Tray 2. Close the paper tray. Access the Digital Input (DI) Test from the control panel. Enter code [DI-A4]. Press the Enter button. **The display is "0".**

**Y N**

Replace the No Paper Sensor (PL 13.5). If the problem continues, replace the Feeder PWB (PL 13.4).

Replace the Feeder PWB (PL 13.4).

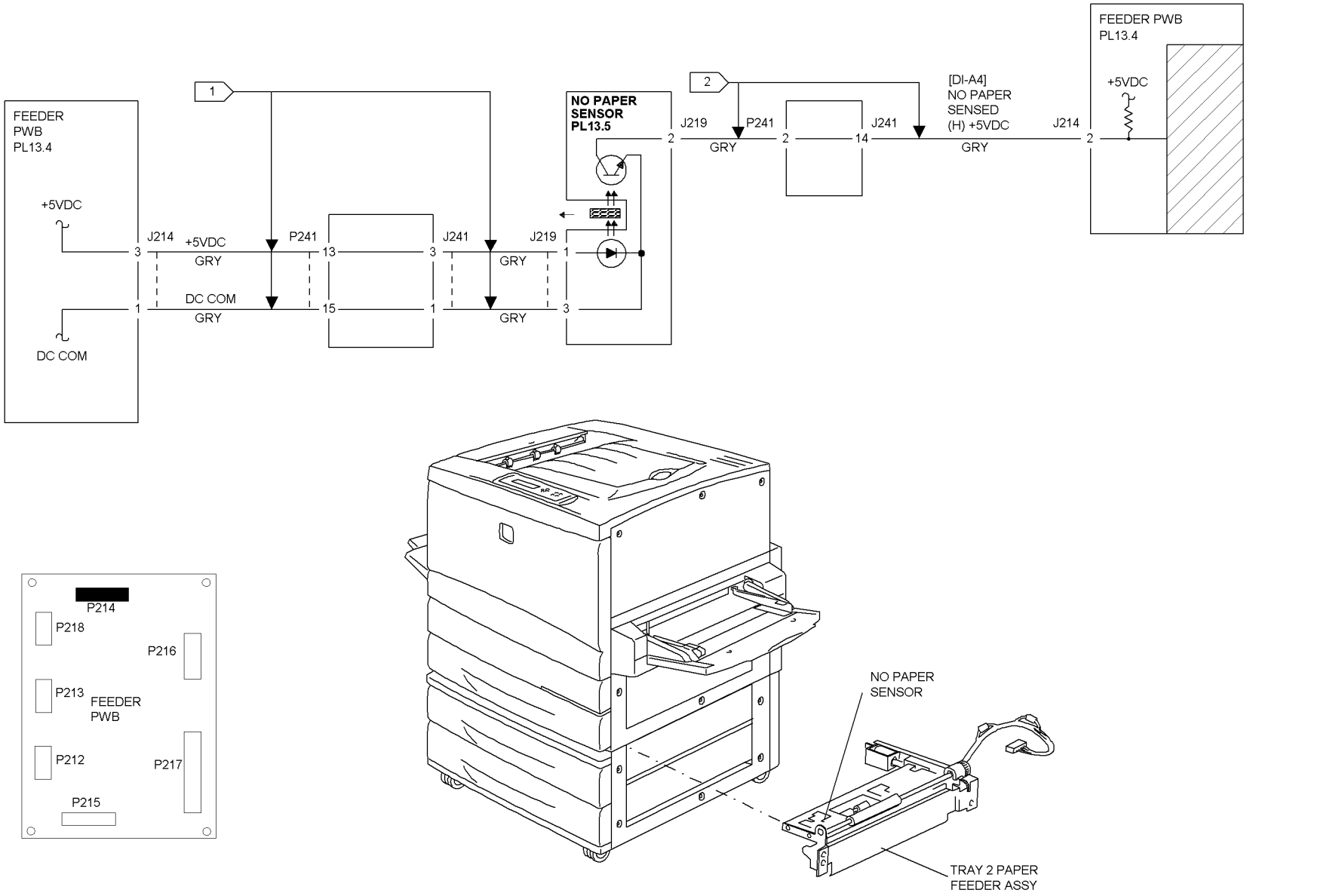



**Figure 1 007-704 RAP Circuit Diagram**

# 007-705 Tray 3 Empty RAP

The Control Logic detected the signal, No Paper Sensor Sensed (H) +5VDC.

## Initial Actions

- Put paper into Tray 3 and ensure that the paper is loaded properly.

## Procedure

Remove Paper Tray 3. Check that the No Paper Actuator is operating properly. **The Actuator is present and operates smoothly.**

**Y N**

Replace the No Paper Sensor Actuator (PL 13.5).

Access the Digital Input (DI) Test from the control panel. Enter code [DI-B4]. Press the Enter button. **The display is "1".**

**Y N**

Check the following:

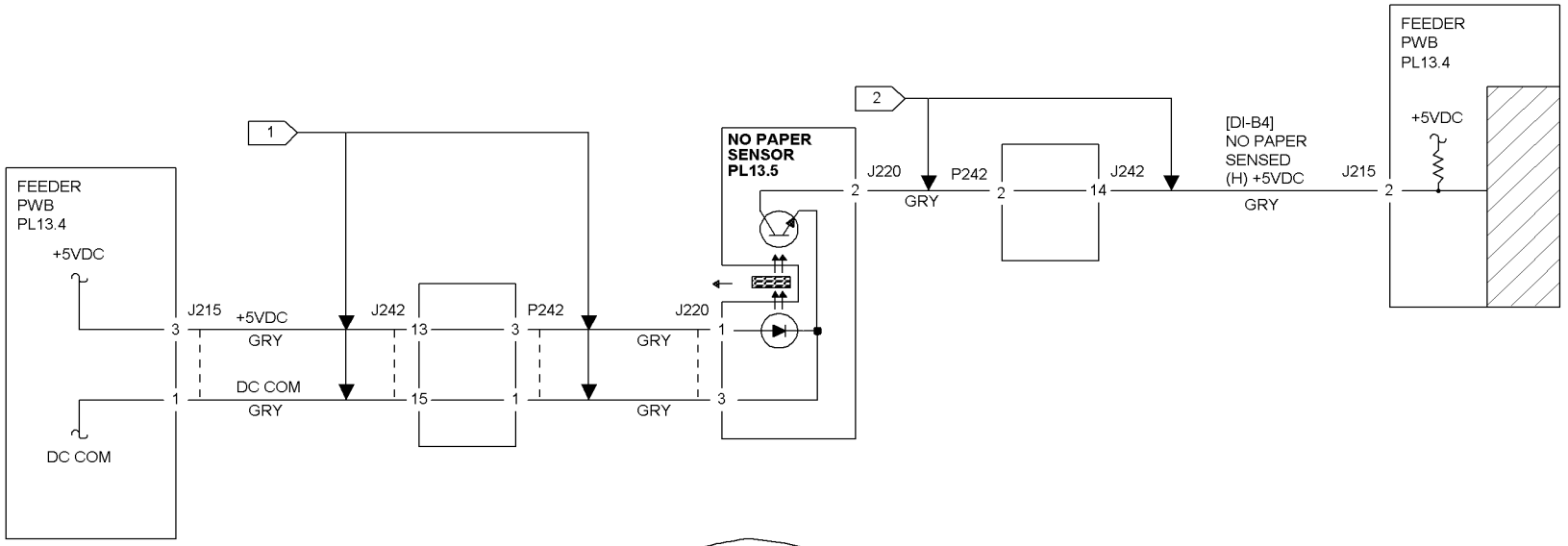
- Go to Flag 1. Check the wires for an open circuit
- Go to Flag 2. Check the wires for an open or a short circuit to ground.
- If the wires are good, replace the No Paper Sensor (PL 13.5).

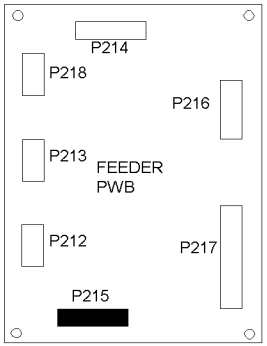
Actuate the No Paper Actuator. Access the Digital Input (DI) Test from the control panel. Enter code [DI-B4]. Press the Enter button. **The display is "0".**

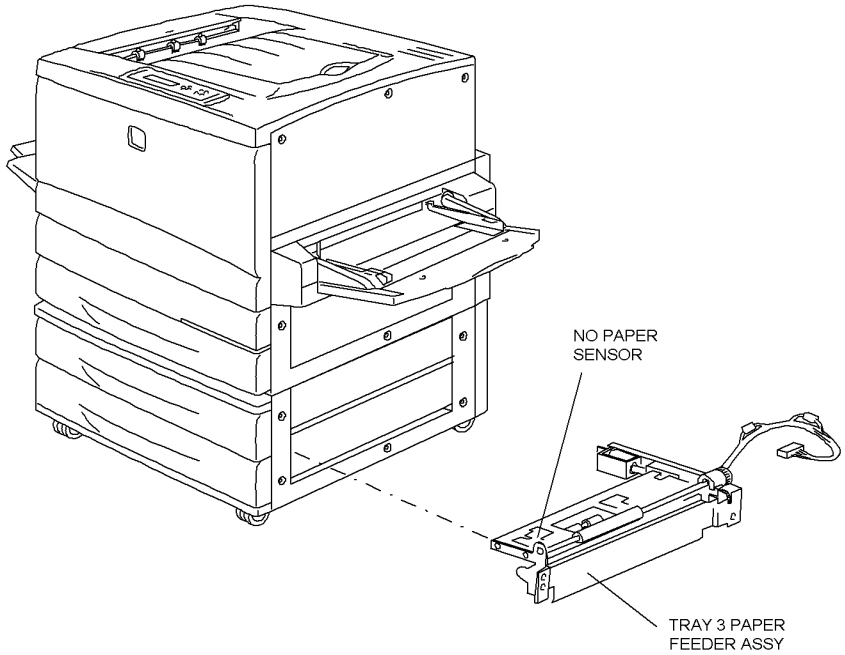
**Y N**

Replace the No Paper Sensor (PL 13.5). If the problem continues, replace the Feeder PWB (PL 13.4).

Replace the Feeder PWB (PL 13.4).




T707007A-WOL

**Figure 1 007-705 RAP Circuit Diagram**

# 007-706 Bypass Tray Empty RAP

The Control Logic has detected a Tray Empty Sensor Sensed (H) +5 VDC.

## Initial Actions

- Load paper into the Bypass Tray.
- Check the Bypass Tray and ensure that the Tray Empty Actuator is present and functions properly.

## Procedure

Load paper into the Bypass Tray. Access the Digital Input (DI) Test from the Control Panel. Enter code [DI-66]. Press the Enter button. **The display indicates "0".**

**Y N**

Go to Flag 1. Check the wires for an open or a short circuit to ground. **The wires are good.**

**Y N**

Repair the wires.

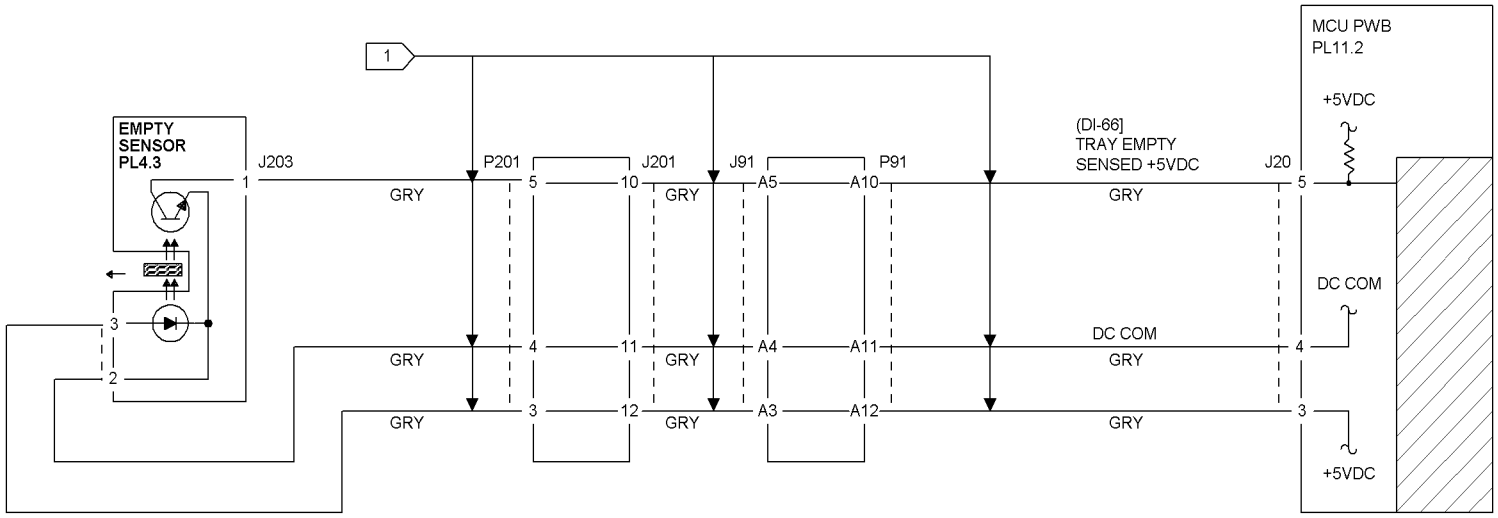
Check the Bypass tray and ensure that the Tray Empty Actuator is present and functions properly. **The Tray Empty Sensor Actuator is good.**

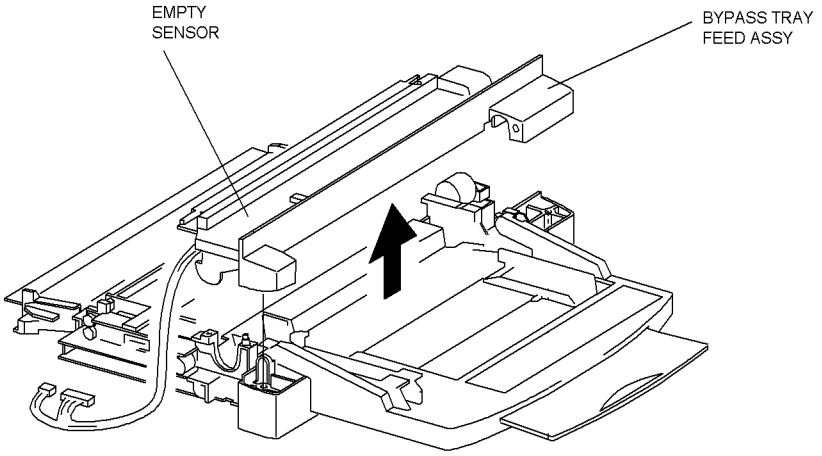
**Y N**

Repair or replace the Tray Empty Actuator (PL 4.3).

Replace the Tray Empty Sensor (PL 4.3). If the problem continues, replace the MCU PWB (PL 11.2).

Replace the MCU PWB (PL 11.2).




0707008A-WOL

**Figure 1 007-706 RAP Circuit Diagram**

# 007-707 Paper Length Mismatch RAP

## Initial Actions

Ensure that the paper tray is properly loaded with paper and the side guides are in the proper position.

## Procedure

Determine which paper tray is being used when the problem occurs. Remove all the paper from that tray and reload with fresh paper. Ensure that all the paper in the tray is of the same size. **The problem continues.**

**Y N**

Instruct the customer how to properly load the paper trays.

Select **Copy** mode. Select the paper Tray in which the fresh paper was loaded. **The paper size indicated on the display is the same as the paper size loaded in the paper Tray.**

**Y N**

Go to the appropriate RAP:

- 007-711 Tray 1 Paper Size Not Detected RAP
- 007-712 Tray 2 Paper Size Not Detected RAP
- 007-713 Tray 3 Paper Size Not Detected RAP

Go to 008-701 Area 2 Jam RAP.

# 007-708 Bypass Tray Lift RAP

## Initial Actions

Ensure that paper is placed in the Bypass Tray.

## Procedure

Enter the diagnostic mode. Enter [DO-23]. **The Lift Plate goes up.**

**Y N**

Check the following:

- Check the lift mechanism gears for broken teeth or broken gears.
- Go to Flag 1. Check the wires for an open or short circuit to ground.
- Replace the Lift Motor (PL 4.2).
- Replace the MCU PWB (PL 11.2).

Go to Flag 2, Flag 3. Check the wires for an open or short to ground. If the wires are good, replace the Lift Plate Sensor (PL 4.2). If the problem continues, replace the MCU PWB (PL 11.2).

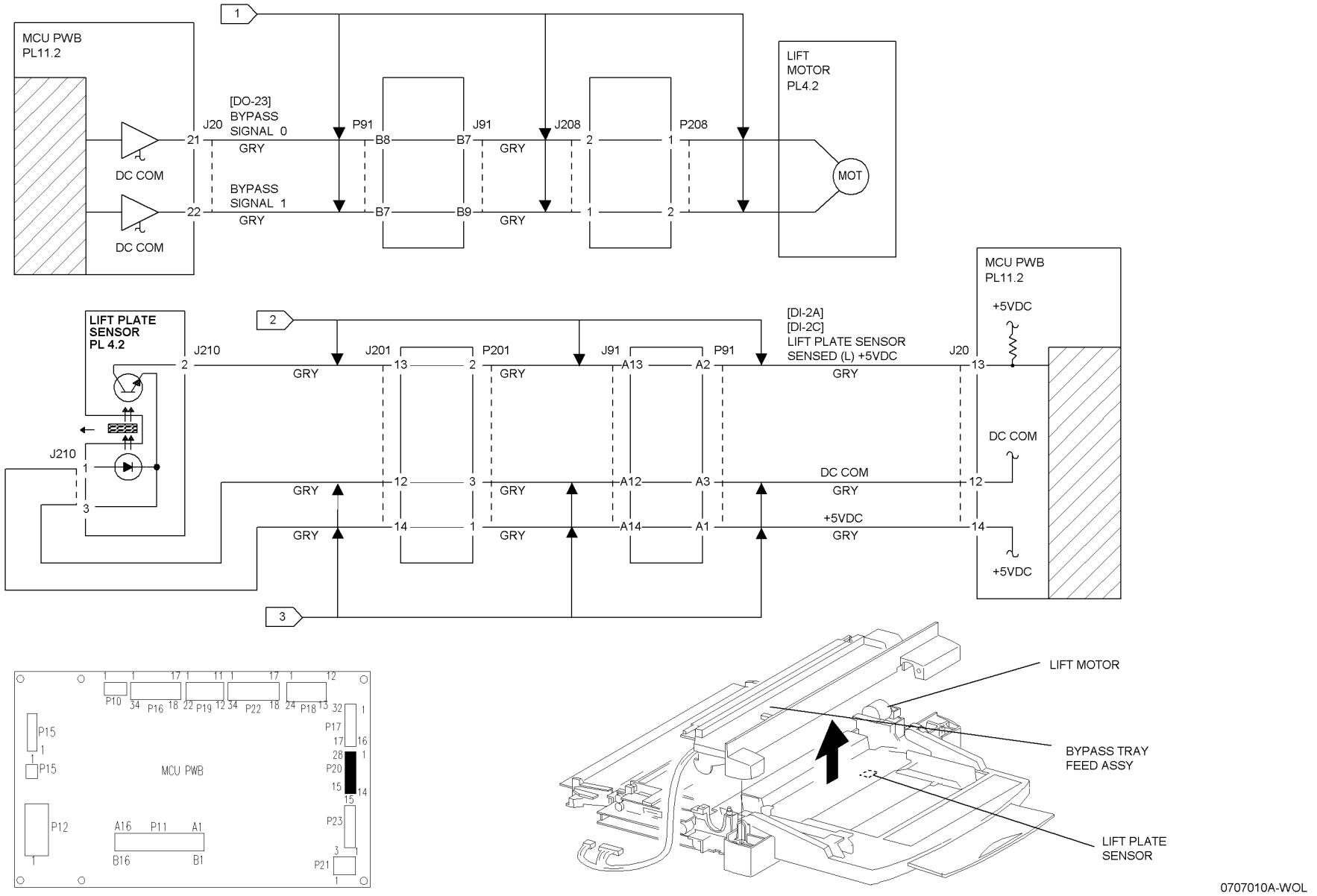



**Figure 1 007-708 RAP Circuit Diagram**

# 007-709 Tray 2 Lift Up RAP

The Control Logic has detected that Tray 2 is not in position to feed paper.

## Initial Actions

Check that the tray lift mechanism, within paper Tray 2, functions correctly.

## Procedure

Switch off the power. Pull out and reinstall Tray 2. Remove the Upper Rear Cover and the Lower Rear Cover. Observe the Feed Motor. Switch on the power. **The Feed Motor operates when the machine starts self test.**

**Y N**

**There is +24 VDC from PJ 217 pin 14 to ground on the Feeder PWB.**

**Y N**

**There is +24 VDC from PJ 213 pin 1 to ground on the Feeder PWB.**

**Y N**

Go to Flag 5. Ensure that the connectors PJ 32, PJ 211 and PJ 213 are properly connected. Check the wires for an open or a short circuit to ground.

Switch off the power. Disconnect the power cord. Replace the Feeder PWB (PL 15.4).

**There is +24 VDC from PJ 217 pin 12 to ground on the Feeder PWB.**

**Y N**

Go to Flag 1 and Flag 2. Check for an open circuit or a short circuit to ground. **The wires are good.**

**Y N**

Repair the wires.

Replace the Feeder Motor (PL 13.4).

Switch off the power. Pull out and reinstall Tray 2. Switch on the power. **There is 0 VDC from PJ 217 pin 12 to ground.**

**Y N**

Replace the Feeder PWB (PL 15.4).

Switch off the power. Disconnect the power cord. Check the Feeder Drive Unit for worn, bound, or damaged gears in the Feeder Motor drive train. **The gears are good.**

**Y N**

Replace the Feeder Drive Unit (PL 15.4).

Replace the Feeder Motor (PL 13.4).

**The Lift Plate in Tray 2 moved up.**

**Y N**

Switch off the power. Disconnect the power cord. Check the Feeder Drive Unit for worn, bound, or damaged gears in the Feeder Motor drive train. **The gears are good.**

**Y N**

Replace the Feeder Drive Unit (PL 15.4).

Replace the Feeder Motor (PL 13.4).

**A**

**A**

**There is + 5 VDC from J 214 pin 5 to ground on the Feeder PWB.**

**Y N**

Go to Flag 3 and Flag 4. Check the wires for an open circuit. **The wires are good.**

**Y N**

Repair the wires. Ensure that PJ 241, PJ 221, and PJ 214 are properly connected.

Check the Nudger Solenoid linkage to the Nudger Roll for proper operation. **The linkage is good.**

**Y N**

Replace the Paper Feeder Assembly for Tray 2 (PL 13.3).

Replace the Nudger Sensor (PL 15.5).

Enter diagnostic code [DO-B6]. **The Nudger Solenoid energizes.**

**Y N**

**There is +24 VDC from J 214 pin 11 to ground on the Feeder PWB.**

**Y N**

**There is +24 VDC from J 214 pin 10 to ground on the Feeder PWB.**

**Y N**

Replace the Feeder PWB (PL 13.4).

Go to Flag 7. Check the wires for an open or a short circuit to ground. **The wires are good.**

**Y N**

Repair the wires. Ensure that PJ 241, PJ 225, and PJ 214 are properly connected.

Inspect the Nudger Solenoid plunger for contamination. Clean as required. Inspect the Nudger linkage for damage or binding. If damaged replace the Nudger Solenoid (PL 13.6) or replace the Paper Feeder Assembly (PL 13.3).

Replace the Feeder PWB (PL 13.4).

**There is +24 VDC from J 216 pin 8 to ground on the Feeder PWB.**

**Y N**

**There is +24 VDC from J 216 pin 7 to ground on the Feeder PWB.**

**Y N**

Replace the Feeder PWB (PL 13.4).

Go to Flag 6. Check for an open circuit. **The wires are good.**

**Y N**

Repair the wires.

Replace the Feeder PWB (PL 13.4).

Replace the Feeder Drive Unit (PL 13.4).

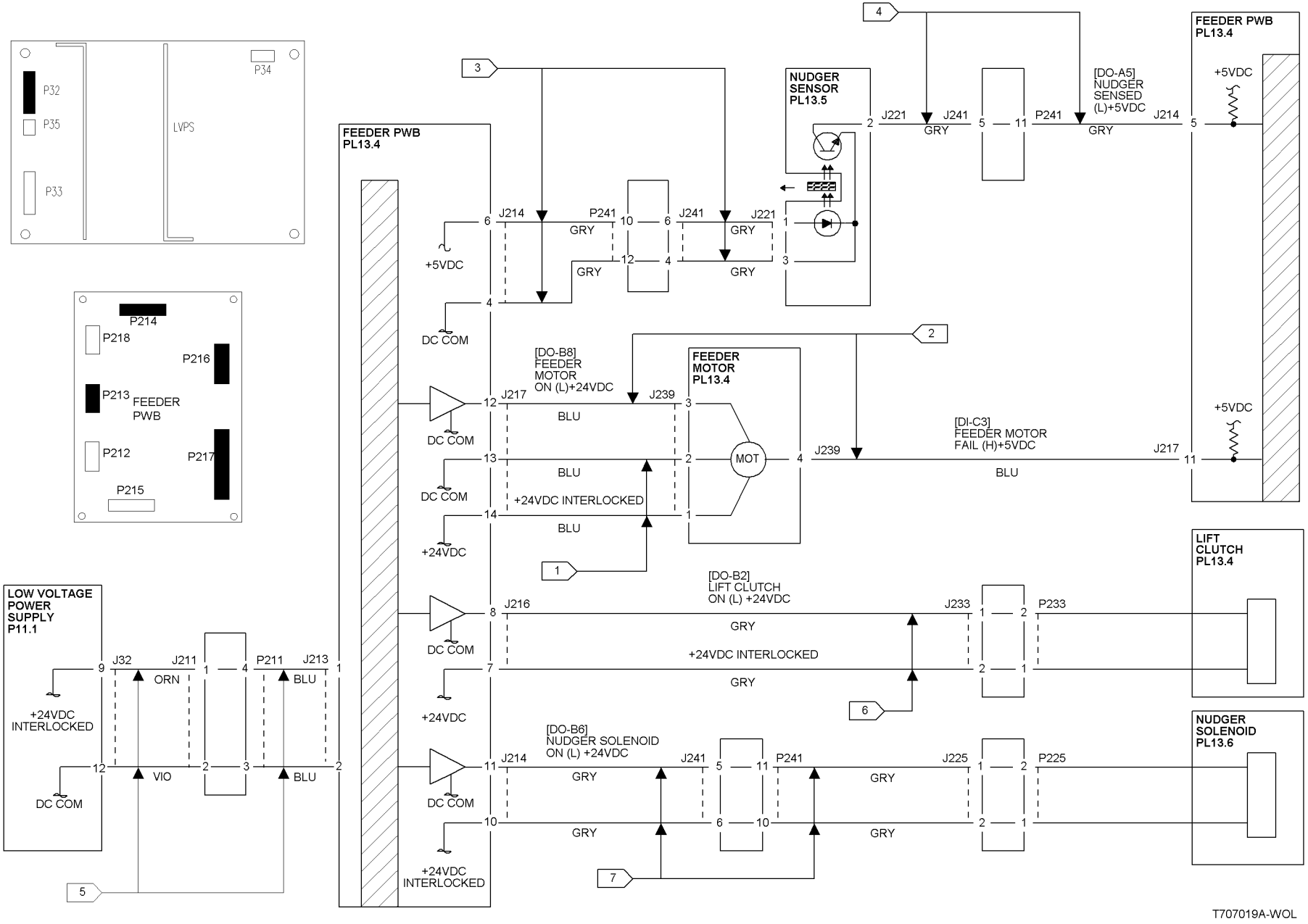



**Figure 1 007-709 RAP Circuit Diagram (1 of 2)**

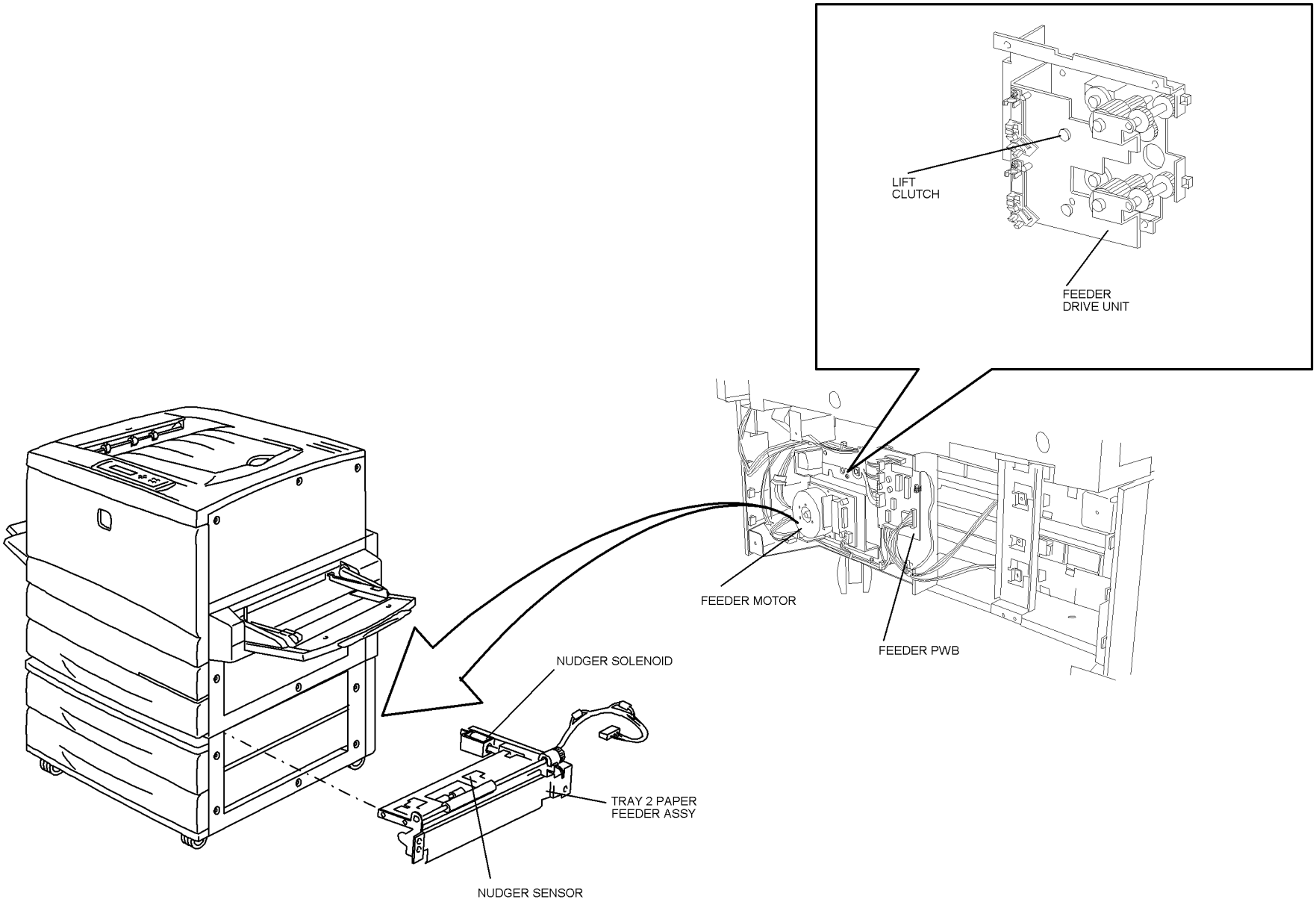



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**Figure 2 007-709 RAP Circuit Diagram (2 of 2)**

# 007-710 Tray 3 Lift Up RAP

The Control Logic has detected that Tray 3 is not in position to feed paper.

## Initial Actions

Check that the tray lift mechanism, within paper Tray 3, functions correctly.

## Procedure

Switch off the power. Pull out and reinstall Tray 3. Remove the Upper Rear Cover and the Lower Rear Cover. Observe the Feed Motor. Switch on the power. **The Feed Motor operates when the machine starts self test.**

**Y N**

**There is +24 VDC from PJ 217 pin 14 to ground on the Feeder PWB.**

**Y N**

**There is +24 VDC from PJ 213 pin 1 to ground on the Feeder PWB.**

**Y N**

Go to Flag 5. Ensure that the connectors PJ 32, PJ 211 and PJ 213 are properly connected. Check the wires for an open or a short circuit to ground.

Switch off the power. Disconnect the power cord. Replace the Feeder PWB (PL 15.4).

**There is +24 VDC from PJ 217 pin 12 to ground on the Feeder PWB.**

**Y N**

Go to Flag 1 and Flag 2. Check for an open circuit or a short circuit to ground. **The wires are good.**

**Y N**

Repair the wires.

Replace the Feeder Motor (PL 13.4).

Switch off the power. Pull out and reinstall Tray 2. Switch on the power. **There is 0 VDC from PJ 217 pin 12 to ground.**

**Y N**

Replace the Feeder PWB (PL 15.4).

Switch off the power. Disconnect the power cord. Check the Feeder Drive Unit for worn, bound, or damaged gears in the Feeder Motor drive train. **The gears are good.**

**Y N**

Replace the Feeder Drive Unit (PL 15.4).

Replace the Feeder Motor (PL 13.4).

**The Lift Plate in Tray 3 moved up.**

**Y N**

Switch off the power. Disconnect the power cord. Check the Feeder Drive Unit for worn, bound, or damaged gears in the Feeder Motor drive train. **The gears are good.**

**Y N**

Replace the Feeder Drive Unit (PL 15.4).

Replace the Feeder Motor (PL 13.4).

**A**

**A**

**There is + 5 VDC from J 215 pin 5 to ground on the Feeder PWB.**

**Y N**

Go to Flag 3 and Flag 4. Check the wires for an open circuit. **The wires are good.**

**Y N**

Repair the wires. Ensure that PJ 242, PJ 222, and PJ 215 are properly connected.

Check the Nudger Solenoid linkage to the Nudger Roll for proper operation. **The linkage is good.**

**Y N**

Replace the Paper Feeder Assembly for Tray 2 (PL 13.3).

Replace the Nudger Sensor (PL 15.5).

Enter diagnostic code [DO-B7]. **The Nudger Solenoid energizes.**

**Y N**

**There is +24 VDC from J 215 pin 11 to ground on the Feeder PWB.**

**Y N**

**There is +24 VDC from J 215 pin 10 to ground on the Feeder PWB.**

**Y N**

Replace the Feeder PWB (PL 13.4).

Go to Flag 7. Check the wires for an open or a short circuit to ground. **The wires are good.**

**Y N**

Repair the wires. Ensure that PJ 242, PJ 226, and PJ 215 are properly connected.

Inspect the Nudger Solenoid plunger for contamination. Clean as required. Inspect the Nudger linkage for damage or binding. If damaged replace the Nudger Solenoid (PL 13.6) or replace the Paper Feeder Assembly (PL 13.3).

Replace the Feeder PWB (PL 13.4).

**There is +24 VDC from J 216 pin 10 to ground on the Feeder PWB.**

**Y N**

**There is +24 VDC from J 216 pin 9 to ground on the Feeder PWB.**

**Y N**

Replace the Feeder PWB (PL 13.4).

Go to Flag 6. Check for an open circuit. **The wires are good.**

**Y N**

Repair the wires.

Replace the Feeder PWB (PL 13.4).

Replace the Feeder Drive Unit (PL 13.4).

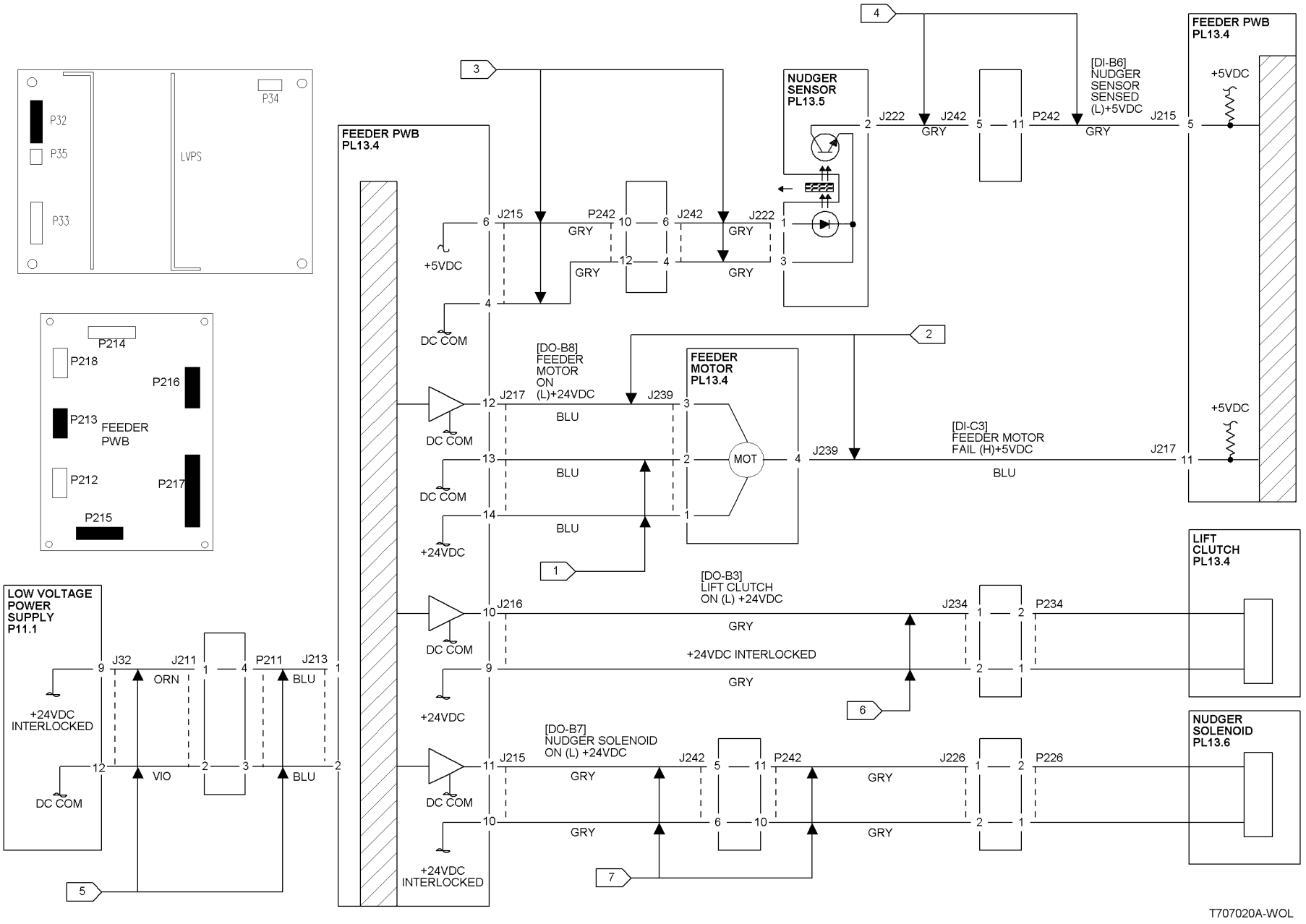



**Figure 1 007-710 RAP Circuit Diagram (1 of 2)**

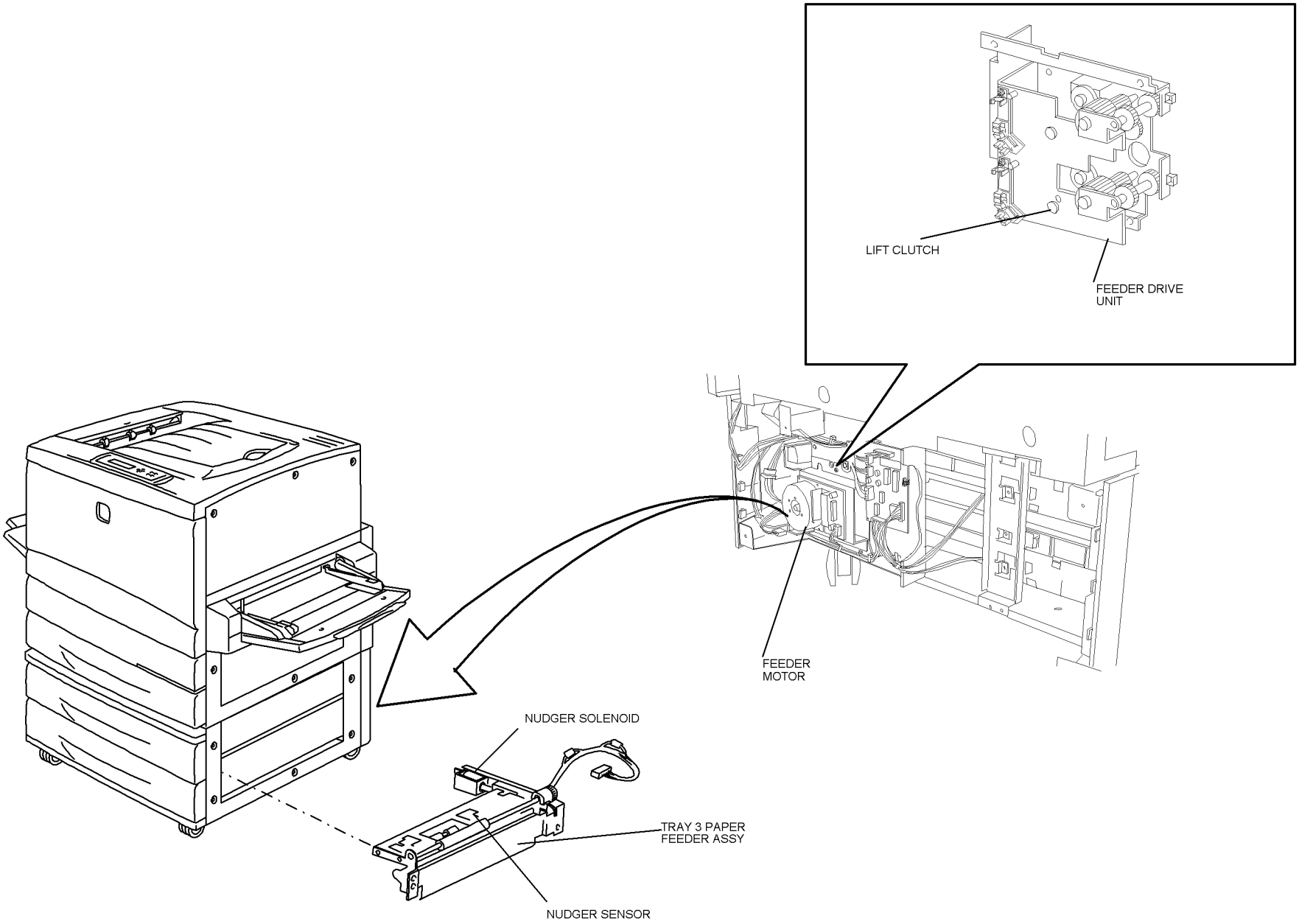



**Figure 2 007-710 RAP Circuit Diagram (2 of 2)**

# 007-711 Tray 1 Paper Size Not Detected RAP

The Control Logic detected that the wrong size paper is feeding from Tray 1.

## Initial Actions

Ensure that the paper in Tray 1 is properly installed and that the tray side and end guides are positioned to touch the paper in the tray.

## Procedure

Switch off the power. Disconnect the Power Cord. Remove the High Voltage Power Supply (PL 11.1). Remove the Tray 1 Size Bracket Assembly (PL 3.1). Remove the Size Switch PWB (PL 3.1) from the Bracket Assembly. Place the Size Switch PWB so that it does not short circuit to the machine frame. Install the Tray 1 Size Switch Bracket. Install the High Voltage Power Supply. Connect the Power Cord. Disconnect PJ 102 from the Size Switch PWB. Switch on the power. **There is +5 VDC from J 102 pin 2 to machine ground.**

**Y N**

Go to Flag 2. Check the wires for an open or a short circuit to ground. **The wires are good.**

**Y N**

Repair the wires.

Replace the MCU PWB (PL 11.2).

**A**

**Table 1 Tray 1 Size Sensing Switch PWB**

| PAPER SIZE | | PAPER SIZE SW | | | ANALOG VOLTAGE OUT |
|---|---|---|---|---|---|
| | SW1 | SW2 | SW3 | SW4 | |
| Tray Out | OFF | OFF | OFF | OFF | (+) 0.24 VDC |
| B5 (LEF) | ON | ON | OFF | OFF | (+) 3.15 VDC |
| A4 (LEF) | OFF | ON | OFF | OFF | (+) 1.21 VDC |
| Letter (LEF) | ON | OFF | ON | OFF | (+) 2.67 VDC |
| A4 (SEF) | OFF | ON | ON | ON | (+) 1.94 VDC |
| Legal 14” (SEF) | ON | ON | ON | OFF | (+) 3.64 VDC |
| B4 (SEF) | OFF | ON | OFF | ON | (+) 2.45 VDC |
| A3 (SEF) | OFF | OFF | ON | OFF | (+) 0.73 VDC |
| 12” x 18” (SEF) | OFF | OFF | OFF | ON | (+) 0.48 VDC |
| Ledger (SEF) | OFF | OFF | ON | ON | (+) 0.97 VDC |

**A**

Connect PJ 102 on the Size Switch PWB. Actuate and hold switches SW1 and SW2 on the Size Switch PWB. **There is +3.15 ±0.10 VDC from J 102 pin 1 to machine ground.**

**Y N**

Go go Flag 1. Check the wires for an open or a short circuit to ground. **The wires are good.**

**Y N**

Repair the wires.

Replace the Size Switch PWB (PL 3.1).

Actuate and hold switches SW3 and SW4 on the Size Switch PWB. **There is +0.97 ±0.10 VDC from J 102 pin 1 to ground.**

**Y N**

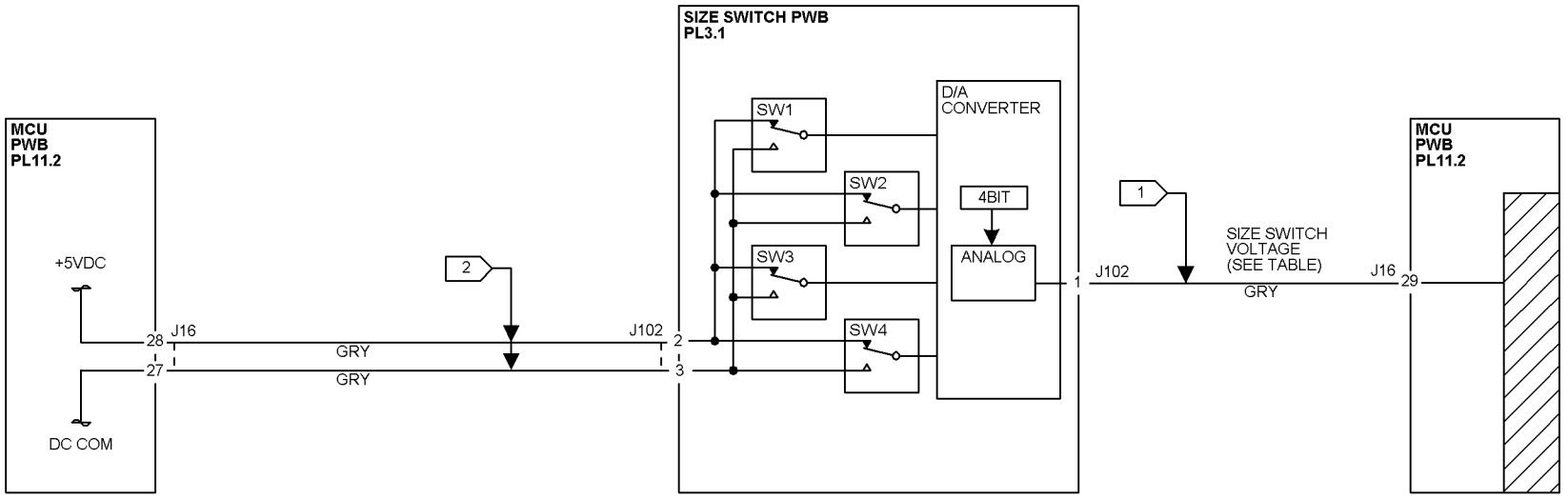
Go go Flag 1. Check the wires for an open or a short circuit to ground. **The wires are good.**

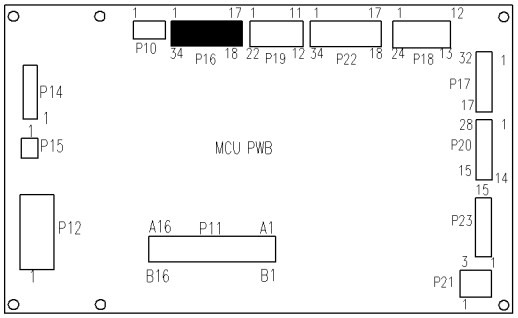
**Y N**

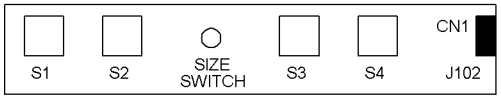
Repair the wires.

Replace the Size Switch PWB (PL 3.1).

Replace the MCU PWB (PL 11.2).



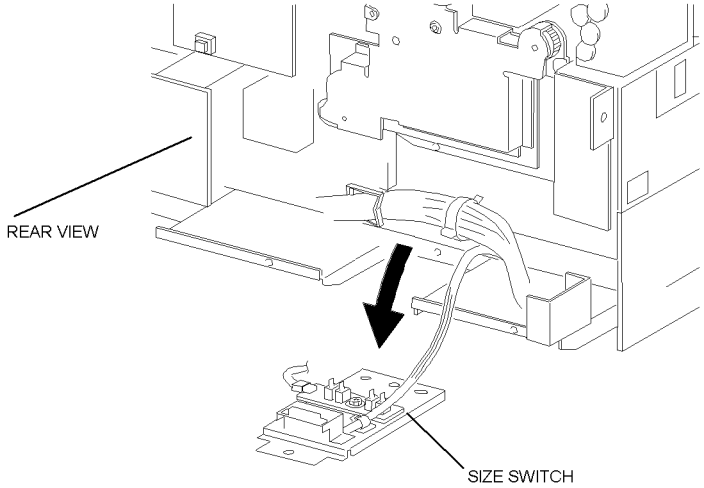




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**Figure 1 007-711 RAP Circuit Diagram**

# 007-712 Tray 2 Paper Size Not Detected RAP

The Control Logic detected that the wrong size paper is feeding from Tray 2.

## Initial Actions

Ensure that the paper in Tray 2 is properly installed and that the tray side and end guides are positioned to touch the paper in the tray.

## Procedure

Switch off the power. Disconnect the Power Cord. Remove the Size Switch PWB (PL 13.3). Place the Size Switch PWB so that it does not short circuit to the machine frame. Connect the Power Cord. Disconnect PJ 235 from the Size Switch PWB. Switch on the power. **There is +5 VDC from J 235 pin 1 to machine ground.**

**Y N**

Go to Flag 2. Check the wires for an open or a short circuit to ground. **The wires are good.**

**Y N**

Repair the wires.

Replace the MCU PWB (PL 11.2).

**A**

**Table 1 Tray 2 Size Sensing Switch PWB**

| PAPER SIZE | | PAPER SIZE SW | | | ANALOG VOLTAGE OUT |
|---|---|---|---|---|---|
| | SW1 | SW2 | SW3 | SW4 | |
| Tray Out | OFF | OFF | OFF | OFF | (+) 4.76 VDC |
| Ledger (SEF) | OFF | ON | OFF | OFF | (+) 3.45 VDC |
| A3 (SEF) | ON | OFF | ON | OFF | (+) 1.57 VDC |
| Letter (LEF) | OFF | ON | ON | ON | (+) 2.49 VDC |
| B5 (LEF) | OFF | ON | OFF | ON | (+) 3.13 VDC |
| Legal (SEF) | OFF | OFF | ON | OFF | (+) 4.09 VDC |
| A4 (LEF) | OFF | OFF | ON | ON | (+) 3.77 VDC |
| B4 (SEF) | OFF | ON | ON | OFF | (+) 2.81 VDC |

**A**

Connect PJ 235 on the Size Switch PWB. Actuate and hold switches SW1 and SW3 on the Size Switch PWB. **There is +1.57 ±0.10 VDC from J 235 pin 2 to machine ground.**

**Y N**

Go to Flag 1. Check the wires for an open or a short circuit to ground. **The wires are good.**

**Y N**

Repair the wires.

Replace the Size Switch PWB (PL 13.3).

Actuate and hold switches SW2 and SW4 on the Size Switch PWB. **There is +3.13 ±0.10 VDC from J 235 pin 2 to machine ground.**

**Y N**

Go to Flag 1. Check the wires for an open or a short circuit to ground. **The wires are good.**

**Y N**

Repair the wires.

Replace the Size Switch PWB (PL 13.3).

Replace the MCU PWB (PL 11.2).

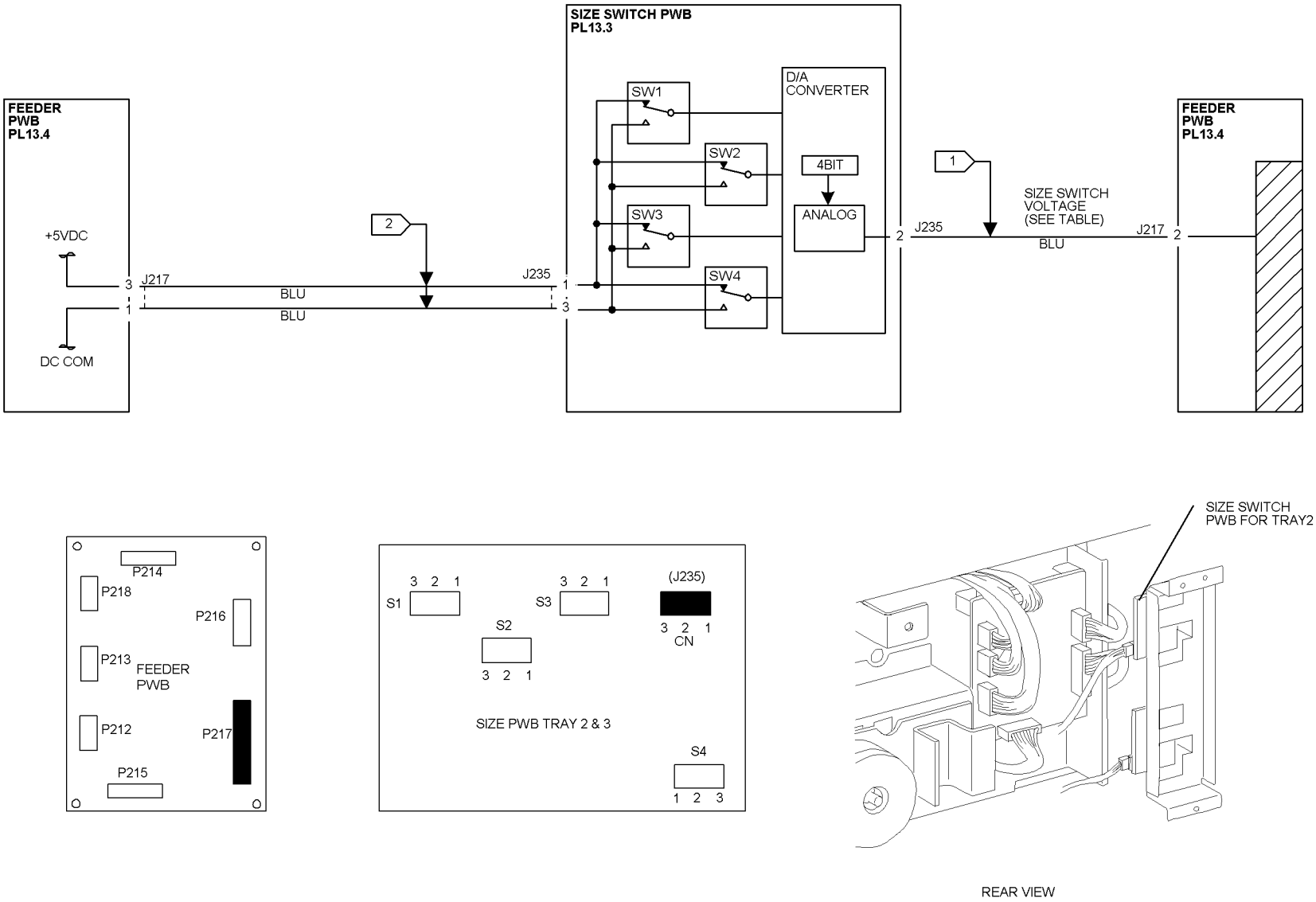


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**Figure 1 007-712 RAP Circuit Diagram**

# 007-713 Tray 3 Paper Size Not Detected RAP

The Control Logic detected that the wrong size paper is feeding from Tray 3.

## Initial Actions

Ensure that the paper in Tray 3 is properly installed and that the tray side and end guides are positioned to touch the paper in the tray.

## Procedure

Switch off the power. Disconnect the Power Cord. Remove the Size Switch PWB (PL 13.3). Place the Size Switch PWB so that it does not short circuit to the machine frame. Connect the Power Cord. Disconnect PJ 236 from the Size Switch PWB. Switch on the power. **There is +5 VDC from J 236 pin 1 to machine ground.**

**Y N**

Go to Flag 2. Check the wires for an open or a short circuit to ground. **The wires are good.**

**Y N**

Repair the wires.

Replace the MCU PWB (PL 11.2).

**A**

**Table 1 Tray 3 Size Sensing Switch PWB**

| PAPER SIZE | | PAPER SIZE SW | | | ANALOG VOLTAGE OUT |
|---|---|---|---|---|---|
| | SW1 | SW2 | SW3 | SW4 | |
| Tray Out | OFF | OFF | OFF | OFF | (+) 4.76 VDC |
| Ledger (SEF) | OFF | ON | OFF | OFF | (+) 3.45 VDC |
| A3 (SEF) | ON | OFF | ON | OFF | (+) 1.57 VDC |
| Letter (LEF) | OFF | ON | ON | ON | (+) 2.49 VDC |
| B5 (LEF) | OFF | ON | OFF | ON | (+) 3.13 VDC |
| Legal (SEF) | OFF | OFF | ON | OFF | (+) 4.09 VDC |
| A4 (LEF) | OFF | OFF | ON | ON | (+) 3.77 VDC |
| B4 (SEF) | OFF | ON | ON | OFF | (+) 2.81 VDC |

**A**

Connect PJ 236 on the Size Switch PWB. Actuate and hold switches SW1 and SW3 on the Size Switch PWB. **There is +1.57 ±0.10 VDC from J 236 pin 2 to machine ground.**

**Y N**

Go to Flag 1. Check the wires for an open or a short circuit to ground. **The wires are good.**

**Y N**

Repair the wires.

Replace the Size Switch PWB (PL 13.3).

Actuate and hold switches SW2 and SW4 on the Size Switch PWB. **There is +3.13 ±0.10 VDC from J 236 pin 2 to machine ground.**

**Y N**

Go to Flag 1. Check the wires for an open or a short circuit to ground. **The wires are good.**

**Y N**

Repair the wires.

Replace the Size Switch PWB (PL 13.3).

Replace the MCU PWB (PL 11.2).

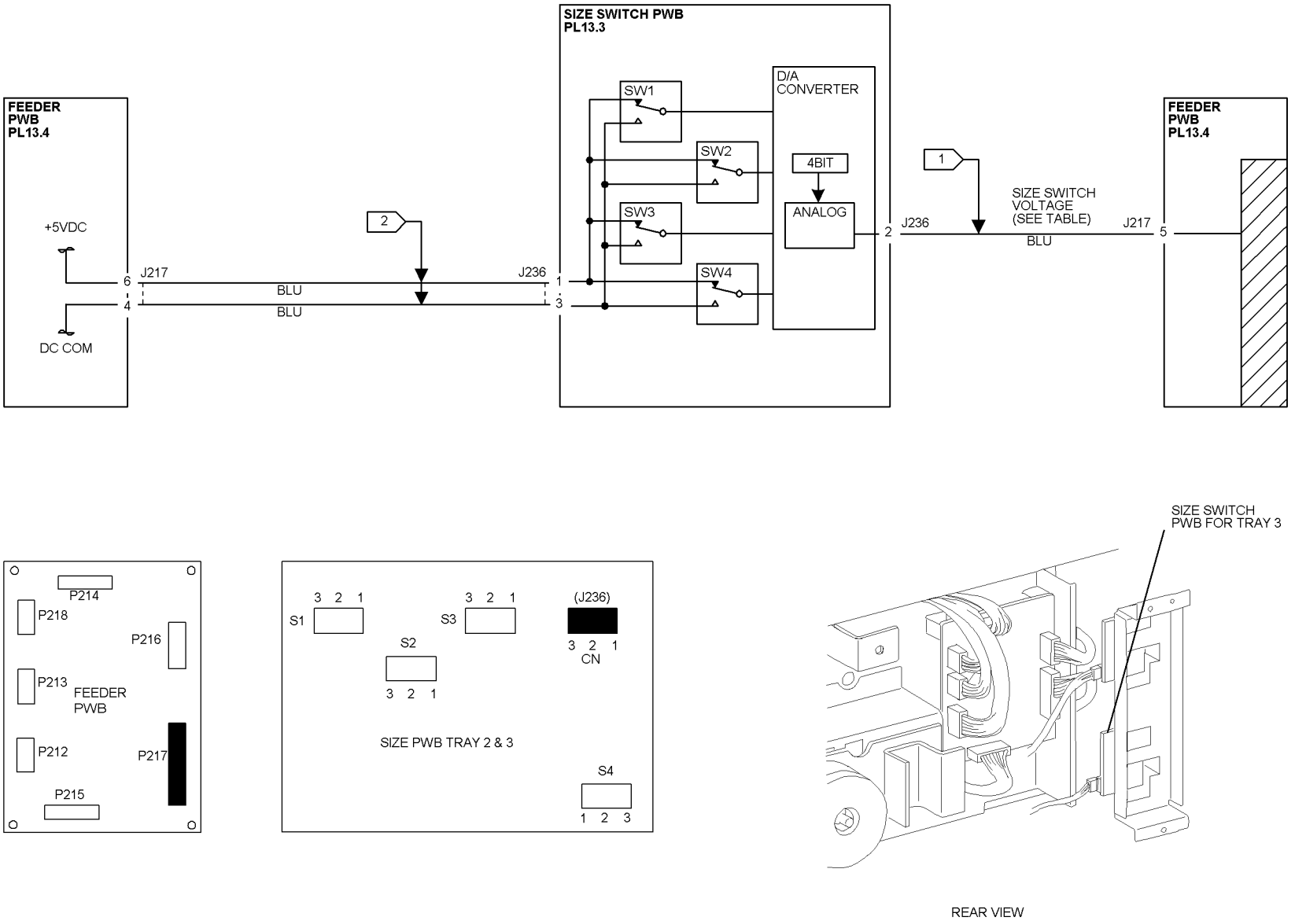



**Figure 1 007-713 RAP Circuit Diagram**

# 008-700 Area 1 Jam RAP

The Registration Sensor or the OHP Sensor in the Bypass Tray Assembly transport, has detected a Registration Sensed (L) +5 VDC or an OHP Sensed (L) +5 VDC, at the incorrect time.

## Initial Actions

- Check for any obstructions in the paper path in the Bypass Tray Assembly and the Registration transport (PL 4.6).

## Procedure

Pull out the Bypass Tray Assembly. Place a strip of paper over the left sensor (Registration Sensor) (PL 4.6). Push in the Bypass Tray Assembly. Enter diagnostic component control code [DI-29], Registration Sensor. **The display indicates "0".**

**Y N**

Pull out the Bypass Tray Assembly and remove the strip of paper from the Registration Sensor. Push in the Bypass Tray Assembly. Enter diagnostic component control code [DI-29]. **The display indicates "1".**

**Y N**

Remove the Bypass Tray / Registration Assembly (REP 8.6). **There is +5 VDC from P91 pin B9 to pin B11.**

**Y N**

Go to Flag 1. Check the wire for an open circuit. If the wire is good, replace the MCU PWB (PL 11.2).

Go to Flag 2. Check the wires for an open or a short circuit to ground. If the wires are good, replace the Registration Sensor (PL 4.6).

Go to Flag 2. Check the wires for an open or a short circuit to ground. If the wires are good, replace the Registration Sensor (PL 4.6).

Pull out the Bypass Tray Assembly. Place a strip of paper over the right sensor (OHP Sensor) (PL 4.6). Push in the Bypass Tray Assembly. Enter diagnostic component control code [DI-27]. **The display indicates "0".**

**Y N**

Pull out the Bypass Tray Assembly and remove the strip of paper from the OHP Sensor. Push in the Bypass Tray Assembly. Enter diagnostic component control code [DI-27]. **The display indicates "1".**

**Y N**

Pull out the Bypass Tray Assembly and remove it from the machine (REP 8.6). **There is +5 VDC from P91 pin B12 to Pin B14.**

**Y N**

Go to Flag 3. Check the wire for an open circuit. If the wire is good, replace the MCU PWB (PL 11.2).

Go to Flag 4. Check the wires for an open or a short circuit to ground. If the wires are good, replace the OHP Sensor (PL 4.6).

Go go Flag 4. Check the wires for an open or a short circuit to ground. If the wires are good, replace the OHP Sensor (PL 4.6).

**A**

***NOTE:*** *Listen close to the Bypass Tray in order to hear the clutches engage when the diagnostic output codes are entered. It may be necessary to stop a diagnostic output code and start it again several times in order to hear the clutches energize.*

Enter [DO-1F]. **The Pre-Registration Clutch engaged.**

**Y N**

Remove the Bypass Tray Assembly from the machine. Disconnect P 95 located on the underside of the Registration Transport. **There is 180 Ohms or less from P 95 pin 2 to pin 1.**

**Y N**

Replace the Pre Registration Clutch Assembly (PL 4.6).

Go to Flag 8 and Flag 5. Check the wires for an open or short circuit to ground. If the wires are good, replace the MCU PWB (PL 11.2).

Clean the Pre Registration Roll, the Registration Metal Roll and the Registration Rubber Roll (PL 4.7). Install the Bypass Tray Assembly. Enter [DO-1E]. **The Registration Clutch engaged.**

**Y N**

Remove the Bypass Tray Assembly from the machine. Disconnect P 94 located on the underside of the Registration Transport. **There is 180 Ohms or less from P 94 pin 2 to pin 1.**

**Y N**

Replace the Registration Clutch Assembly (PL 4.7).

Go to Flag 9 and Flag 6. Check the wires for an open or short circuit to ground. If the wires are good, replace the MCU PWB (PL 11.2).

Install the Bypass Tray Assembly. Enter [DO-30]. **The Feed Clutch engaged.**

**Y N**

Remove the Bypass Tray Assembly from the machine. Disconnect P 202. **There is 180 Ohms or less from P 202 pin 2 to pin 1.**

**Y N**

Replace the Feed Clutch (PL 4.5).

Go to Flag 10 and Flag 7. Check the wires for an open or short circuit to ground. If the wires are good, replace the MCU PWB (PL 11.2).

Check that there are no obstructions on the Turn Roll Chute (PL 3.3). Clean the Turn Roll. Clean the Nudger Roll, the Retard Roll and the Friction Clutch rubber roll (PL 4.4).

**A**

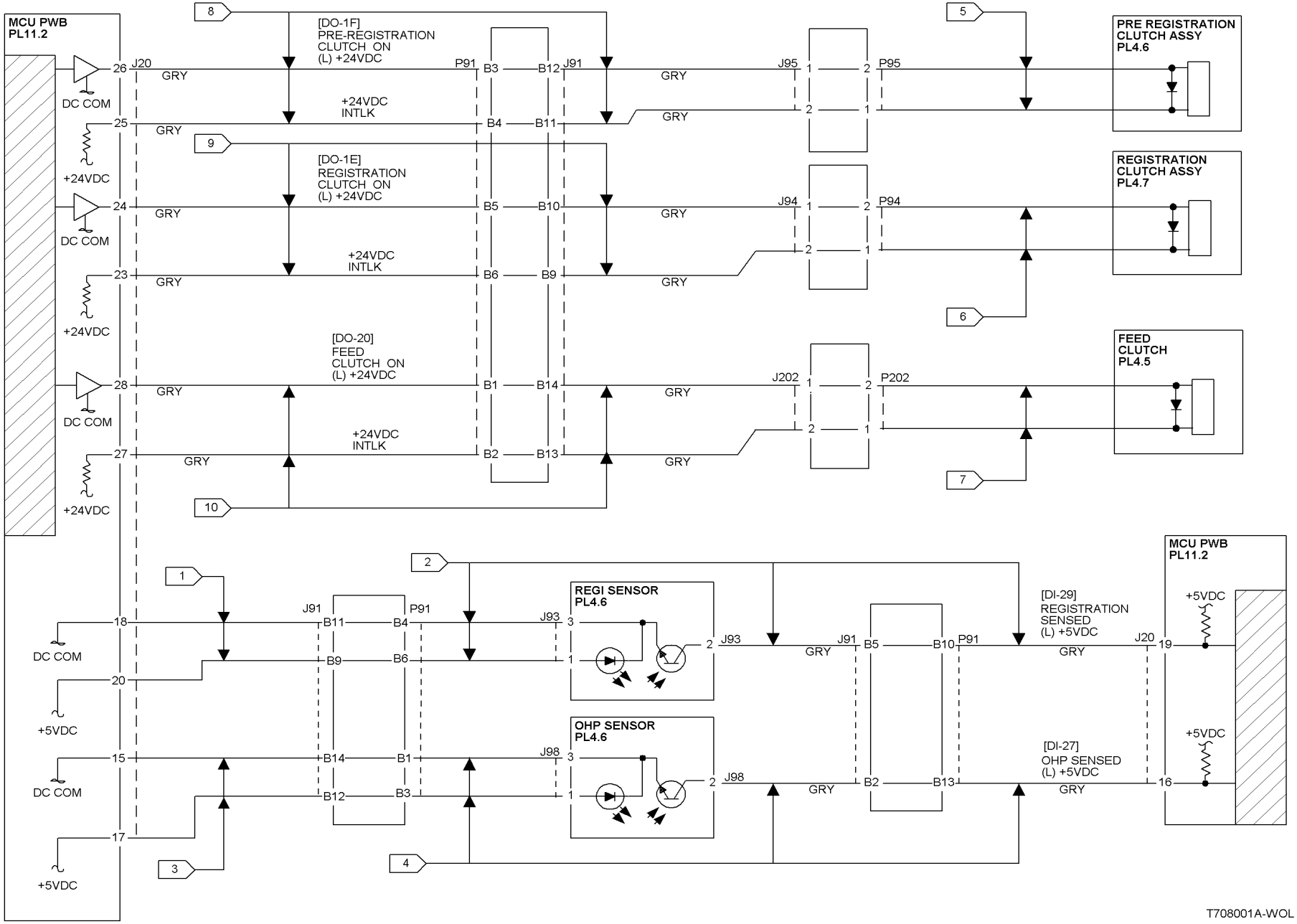



**Figure 1 008-700 RAP Circuit Diagram (1 of 2)**

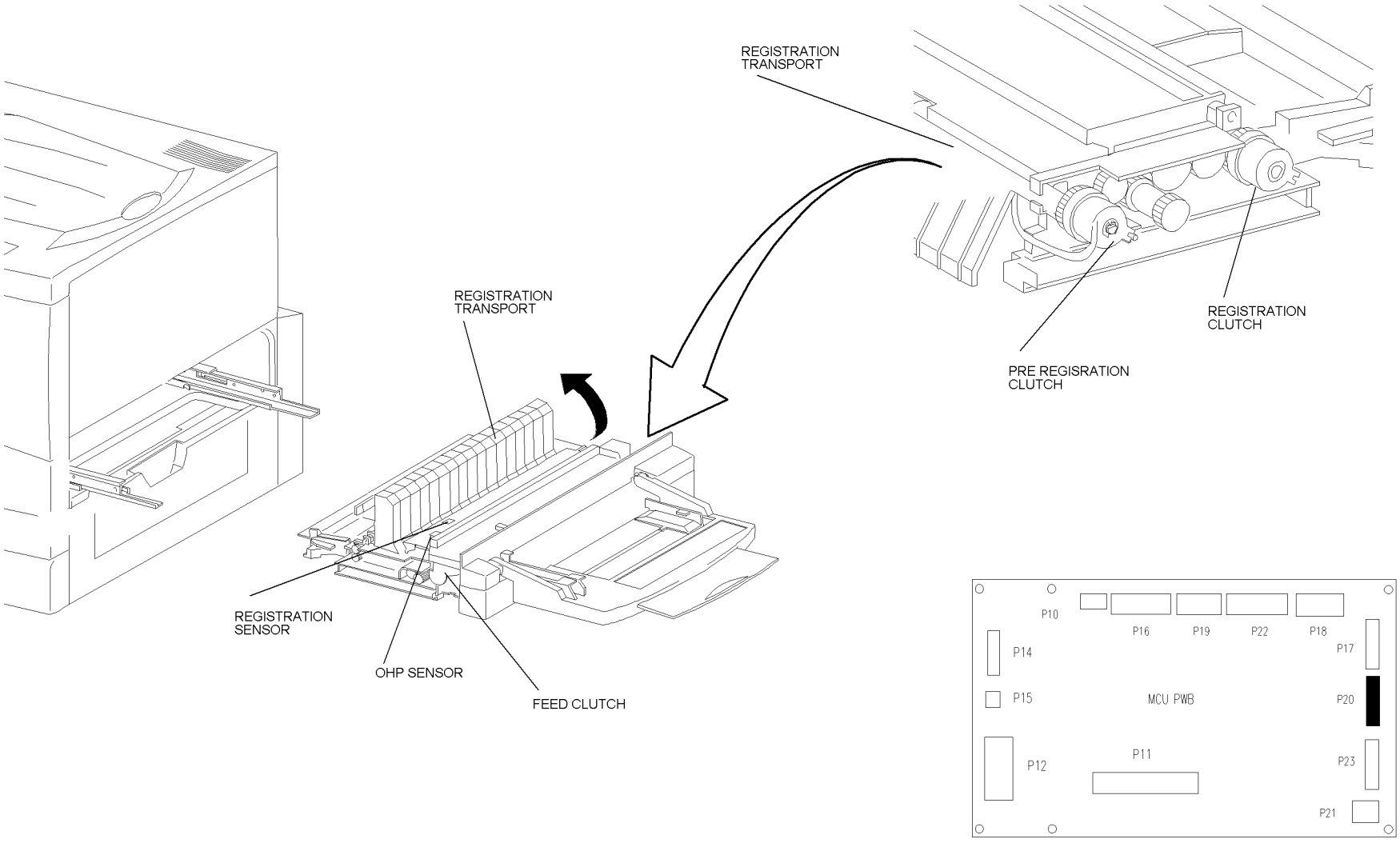



**Figure 2 008-700 RAP Circuit Diagram (2 of 2)**

# 008-701 Area 2 Jam RAP

The Control Logic has detected the signal, Duplex Entrance Sensor (L) +5 VDC or the Control Logic did not detect the signal, Registration Sensed (L) +5 VDC within the set time limit.

## Initial Actions

- Pull out the Duplex Tray Assembly and remove all papers.
- Open the Right Duplex Cover and remove any paper from this area.

## Procedure

Ensure that there are no bits of paper or other obstructions on the Duplex Entrance Sensor (PL 15.3). Enter the diagnostic mode and enter [DI-91]. **The display indicates a "1".**

**Y N**

Go to Flag 4. Check the wire for a short circuit to ground. If the wire is good, replace the Duplex Entrance Sensor (PL 15.3). If the problem continues, replace the Duplex Controller PWB (PL 15.6).

Insert a piece of paper over the Duplex Entrance Sensor. Close the Duplex Tray. Enter the diagnostic code [DI-91]. **The display indicates a "0".**

**Y N**

Go to Flag 1. Check the wires for a short circuit to ground. If the wires are good, replace the Duplex Entrance Sensor (PL 15.3). If the problem continues, replace the Duplex Controller PWB (PL 15.6).

Ensure that there are not bits of paper or other obstructions on the Registration Sensor (PL 4.6). Enter the diagnostic mode and enter [DI-29]. **The display indicates a "1".**

**Y N**

Go to Flag 5. Check the wire for a short circuit to ground. If the wire is good, replace the Registration Sensor (PL 4.6). If the problem continues, replace the MCU PWB (PL 11.2).

Insert a piece of paper over the Registration Sensor. Close the Bypass Tray/ Paper Transport. Enter the diagnostic code [DI-29]. **The display indicates a "0".**

**Y N**

Go to Flag 2. Check the wires for a short circuit to ground. If the wires are good, replace the Registration Sensor (PL 4.6). If the problem continues, replace the MCU PWB (PL 11.2).

Check the Duplex Entrance and Exit Chute for obstructions. Clean the Duplex Entrance Roll and Exit Roll (PL 15.3). Enter the diagnostic mode and enter [DO-A2]. **There is 0 VDC from J 141 pin 9 to ground.**

**Y N**

Replace the Duplex Controller PWB (PL 15.6).

To to Flag 3. Check the wires for an open or a short circuit to ground. If the wires are good, replace the Duplex Drive Clutch (PL 15.4).

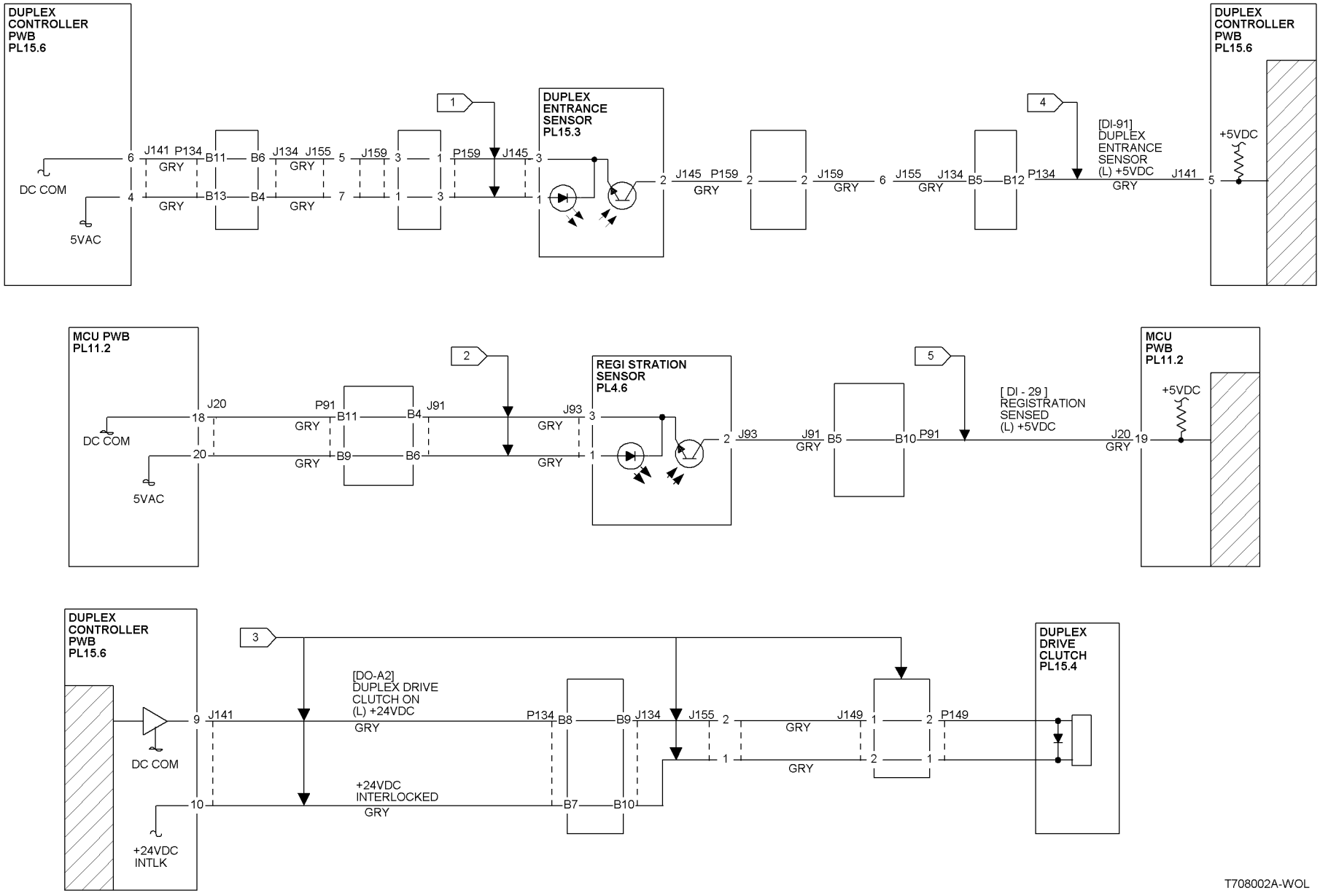
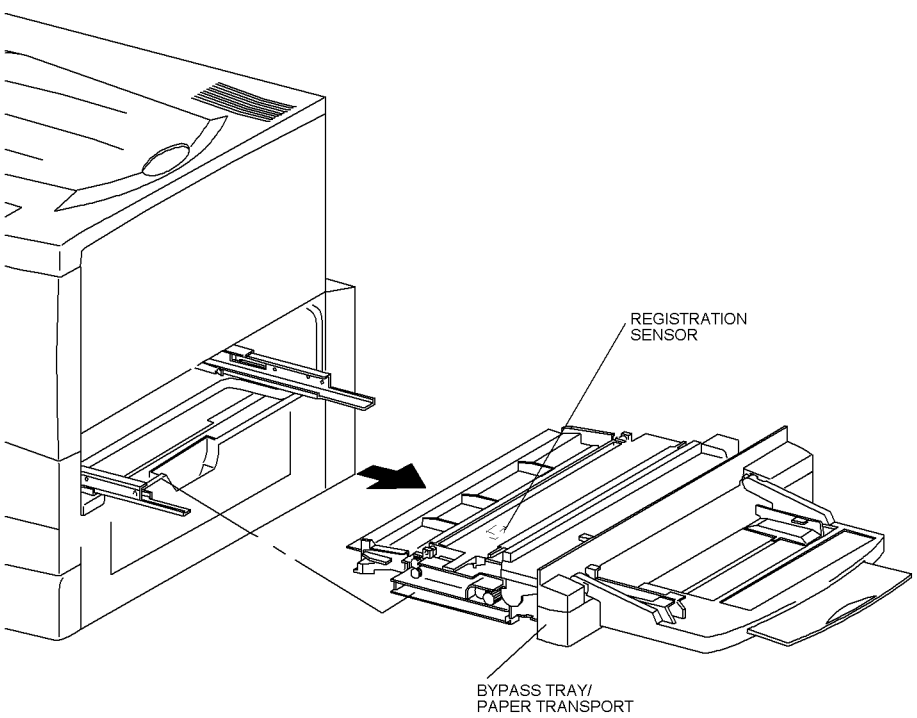
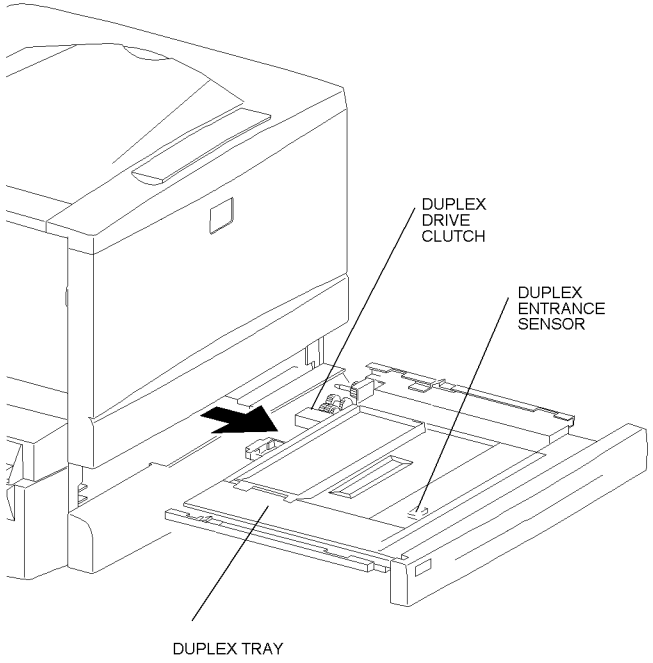
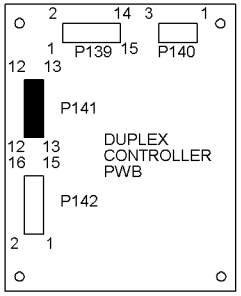



**Figure 1 008-701 RAP Circuit Diagram (1 of 2)**



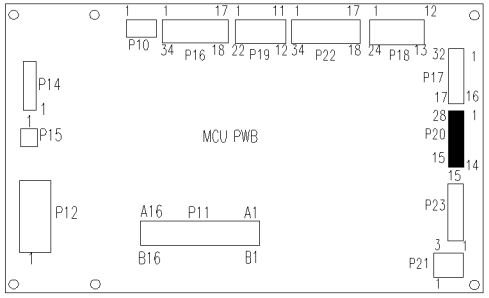




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**Figure 2 008-701 RAP Circuit Diagram (2 of 2)**

# 008-702 Area 3 Jam RAP

The Control Logic has detected the signal Feed Out Sensed (L) +5 VDC at an incorrect time. This signal can originate from the Tray 2 Feed Out Sensor or the Tray 3 Feed Out Sensor.

## Initial Actions

- Open the Feeder Chute on the lower right side of the machine and remove any paper.
- Ensure that the front and rear Feeder Chute magnets are present.
- Check that the Feeder Chute closes completely.

## Procedure

Put a sheet of paper in the Paper Feeder for Tray 2 to cover the Feed Out Sensor. Close the Feeder Chute. Enter diagnostic code [DI-A6]. **The display indicates a "0".**

**Y N**

Go to Flag 3. Check the wires for an open or a short circuit to ground. **The wires are good.**

**Y N**

Repair the wires.

Go to Flag 1. Check the wires for an open or a short circuit to ground. If the wires are good, Replace Feed Out Sensor for Tray 2 Paper Feeder (PL 13.5). If the problem continues, replace the Feeder PWB (PL 13.4).

Remove the paper from the Paper Feeder for Tray 2. Put a sheet of paper in the Paper Feeder for Tray 3 to cover the Feed Out Sensor. Close the Feeder Chute. Enter diagnostic code [DI-B6]. **The display indicates a "0".**

**Y N**

Go to Flag 4. Check the wires for an open or a short circuit to ground. **The wires are good.**

**Y N**

Repair the wires.

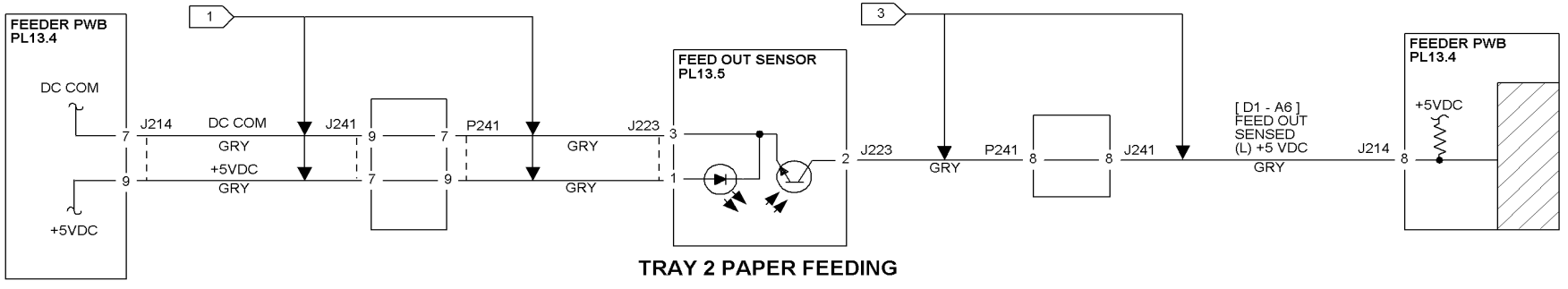
Go to Flag 2. Check the wires for an open or a short circuit to ground. If the wires are good, replace the Feed Out Sensor for Tray 3 Paper Feeder (PL 13.5). If the problem continues, replace the Feeder PWB (PL 13.4).

Go to Flag 1. Check the wires for an open or short circuit to ground. **The wires are good.**

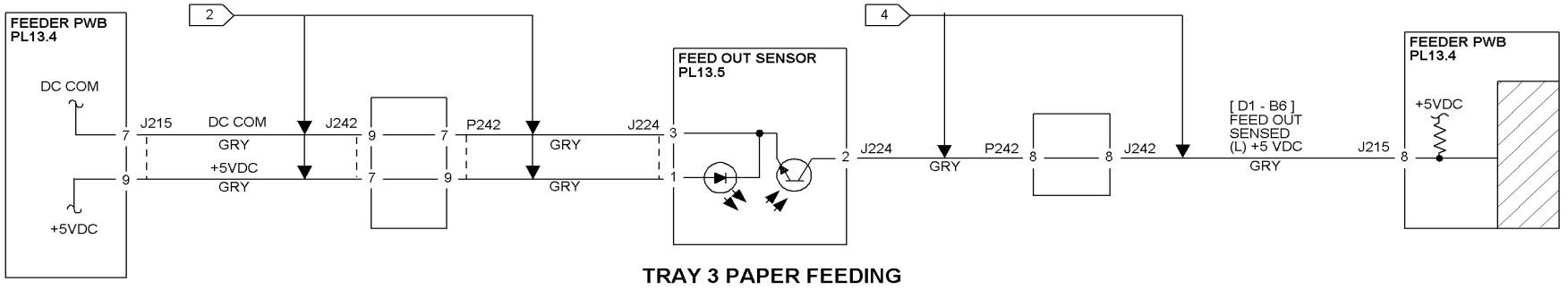
**Y N**

Repair the wires.

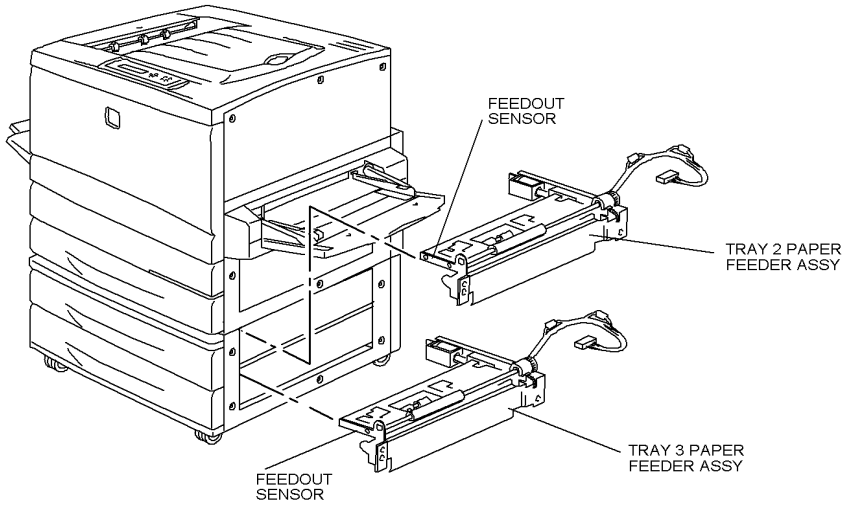
Replace the Feed Out Sensor for Tray 2 Paper Feeder (PL 13.5). If the problem continues, replace the Feeder PWB (PL 13.4).

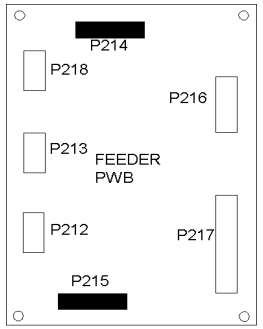



**TRAY 2 PAPER FEEDING**




**TRAY 3 PAPER FEEDING**




T708009A-WOL

**Figure 1 008-702 RAP Circuit Diagram**

# 008-703 Area 4 Jam RAP

The Control Logic has detected the signal Paper at Top Exit Sensor (L) +5 VDC at the incorrect time.

## Initial Actions

- Open the Top Left Cover and remove any paper from area 4.
- Ensure that the Top Left Cover is securely closed.
- Ensure that the Top Left Cover front and rear magnets are in position.
- Ensure that the Top Exit Sensor Actuator operates correctly.

## Procedure

Enter diagnostic code [DI-16]. **The display indicates a "1".**

**Y** **N**

Go to Flag 2. Check the wire for a short circuit to ground. **The wire is good.**

**Y** **N**

Repair the wire.

**There is +5 VDC from J 161 pin 6 to ground.**

**Y** **N**

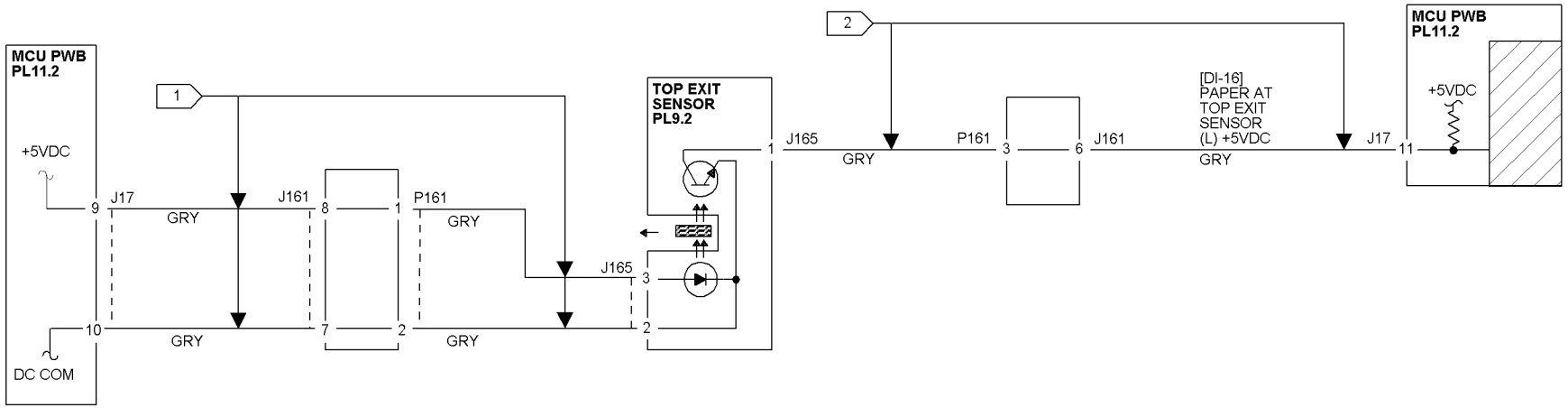
Replace the Top Exit Sensor (PL 9.2). If the problem continues, replace the MCU PWB (PL 11.2).

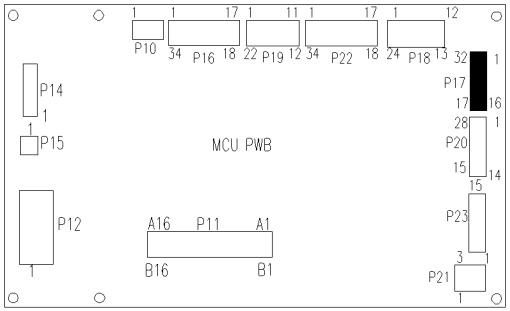
Replace the MCU PWB (PL 11.2).

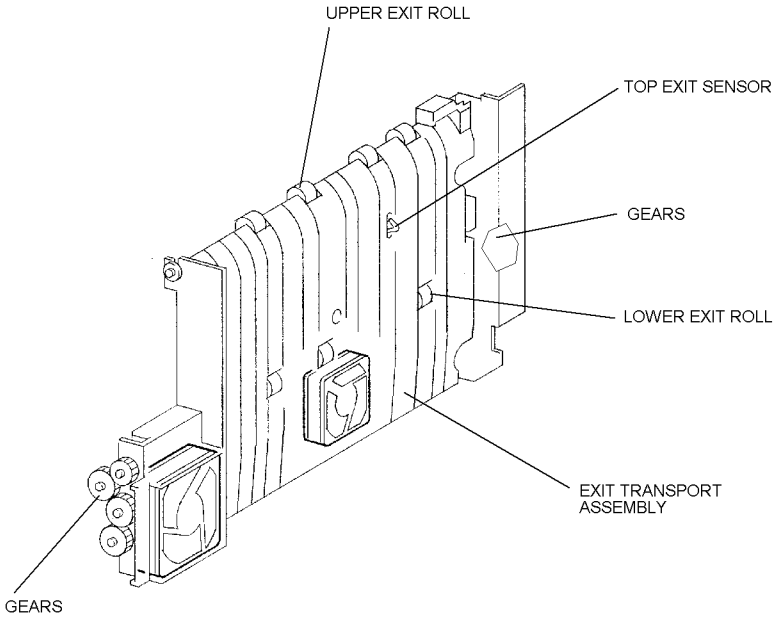
Go to Flag 1. Check the wires for an open or a short circuit to ground. If the wires are good, replace the Top Exit Sensor (PL 9.2). If the problem continues, replace the MCU PWB (PL 11.2).

Perform the following:

- Check that the Exit Transport Assembly is mounted to the machine properly and that the Exit Transport gears (front and rear) are properly engaged and free from damage (PL 9.2).
- Check that the Upper and Lower Exit Rolls clean and the gears are free from damage (PL 9.2).
- Check that the pinch rolls on the Exit Transport Cover are functioning properly (PL 9.2).




T708008A-WOL

**Figure 1 008-703 RAP Circuit Diagram**

# 008-704 Area 6 Jam RAP

The Control Logic had detected the signal, Inverter Sensor Sensed (L) +5 VDC at an incorrect time.

## Initial Actions

- Clear the jam from the Lower Inverter Assembly.
- Check that the Lower Inverter Door Assembly is closed properly.
- Check for contamination on the Inverter Rolls.

## Procedure

Switch off the power. Remove the Lower Inverter Assembly (REP 8.35). Remove the Inverter Rear Cover. Install the Inverter Assembly. Check that the Inverter Sensor Actuator is operating properly. Close the Inverter Chute. Enter diagnostic code [DI-90]. **The display indicates a "1".**

**Y N**

Go to Flag 1 and Flag 2. Check the wire for a short circuit to ground. If the wire is good, replace the Duplex Controller PWB (PL 15.6). If the problem continues, replace the Inverter Sensor (PL 15.5).

Enter [DO-A3]. **The Forward Clutch actuates.**

**Y N**

**There is 0 VDC from J 139 pin 11 on the Duplex Controller PWB to ground.**

**Y N**

Replace the Duplex Controller PWB (PL 15.6).

Go to Flag 5. Check the wires for an open or short circuit to ground. If the wires are good, replace the Forward Clutch (PL 15.7). If the problem continues, replace the Duplex Controller PWB (PL 15.6).

**Enter [DO-A0]. The Inverter Motor operates.**

**Y N**

Go to Flag 4. Check that the connectors J 139 and PJ 147 are properly connected. Check the wires for an open or a short circuit to machine frame. **The wires and the connectors are good.**

**Y N**

Repair the wires or the connectors.

Go to the Inverter Motor Assembly. **There is +24 VDC from PJ 147 pin 1 and pin 3.**

**Y N**

Go to Flag 6.Check the wire for an open or a short circuit to GND. If the wires are good, replace the Duplex Controller PWB (PL 15.6).

Replace the Inverter Motor Assembly (PL 15.5). If the problem continues, replace the Duplex Controller PWB (PL 15.6).

Enter [DO-A1]. **The Inverter Entrance Clutch actuates.**

**Y N**

**There is 0 VDC from J 139 pin 15 and machine frame.**

**Y N**

Replace the Duplex Controller PWB (PL 15.6).

**A B**

**A B**

Go to Flag 3. Check the wires for an open or short circuit to ground. If the wires are good, replace the Inverter Entrance Clutch (PL 15.6). If the problem continues, replace the Duplex Controller PWB (PL 15.6).

Check for worn, bound or damaged gears in the Inverter drive train. Replace as necessary (PL 15.6).

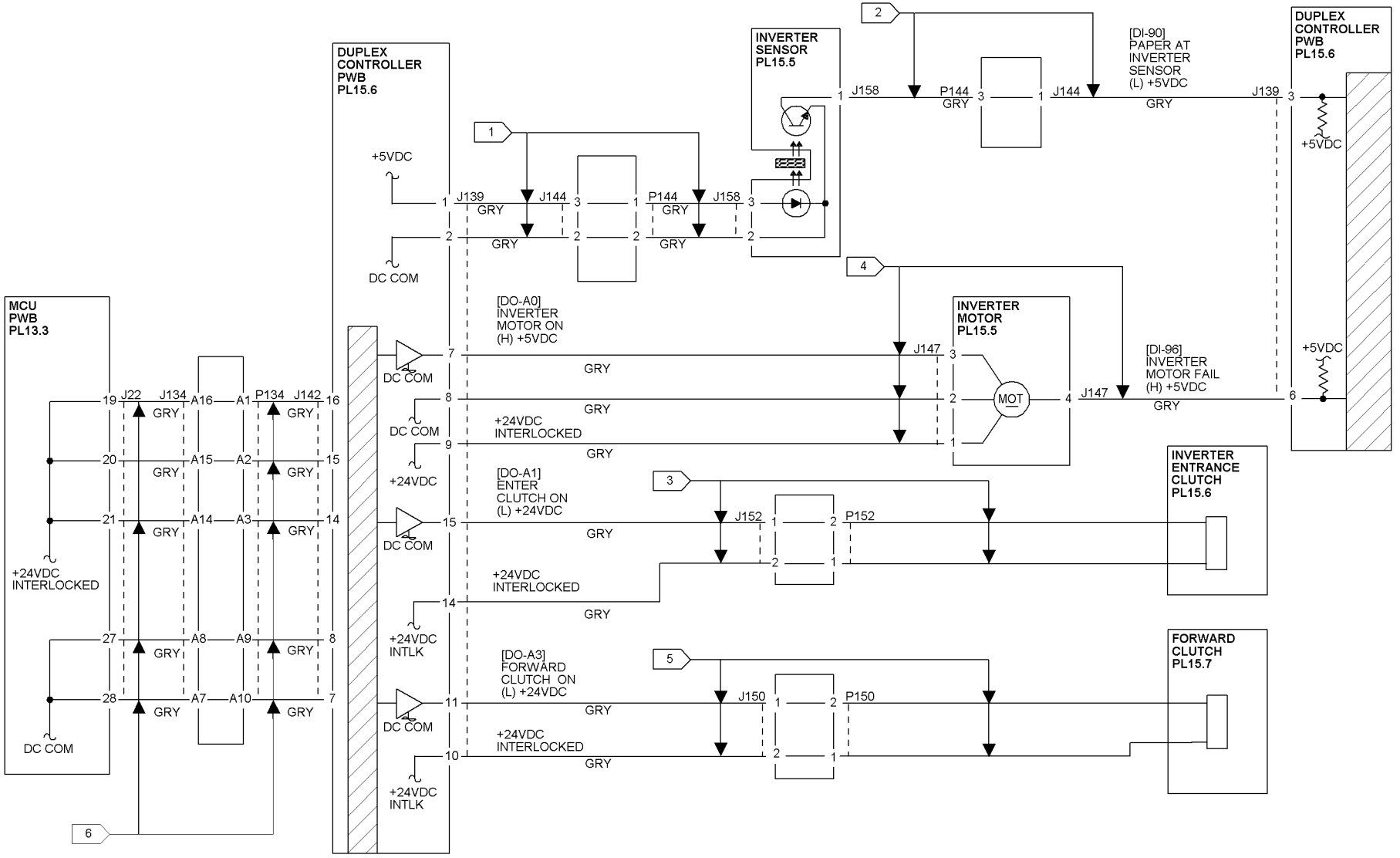
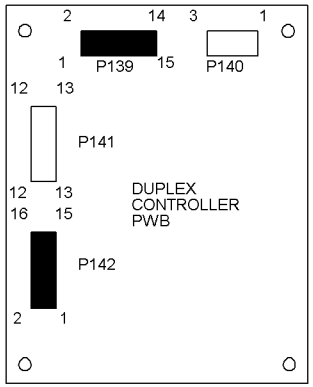
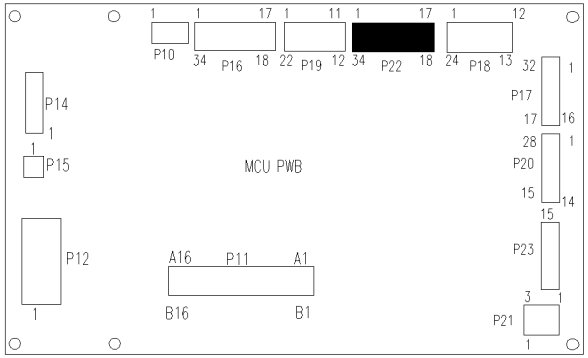
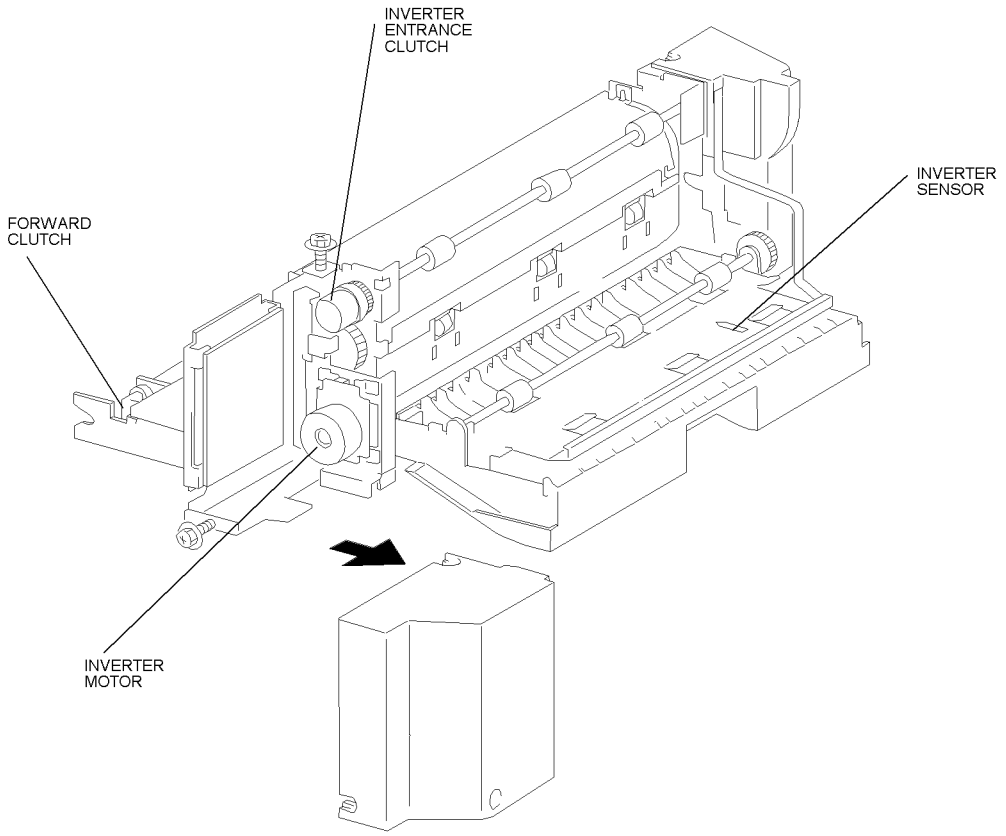



**Figure 1 008-704 RAP Circuit Diagram (1 of 2)**




**INVERTER LOWER ASSEMBLY**

T708010A-WOL

**Figure 2 008-704 RAP Circuit Diagram (2 of 2)**

# 008-705 Top Tray Full RAP

The Control Logic has sensed the signal, Top Tray Full (L) +5 VDC.

## Initial Actions

- Remove any paper from the Top Tray.
- Unlock the Full Stack Sensor Actuator, so that the Actuator will operate properly.
- Ensure that the Sensor and Actuator are properly installed into the Sensor Bracket.

## Procedure

Enter the diagnostic mode. Enter Code [DI-15]. **The display indicates a “1”.**

**Y N**

Go to Flag 2. Check the wire for a short circuit to ground. **The wire is good.**

**Y N**

Repair the wire. Ensure that PJ 17, PJ 161 and PJ 167 are properly connected.

Replace the Full Stack Sensor (PL 9.2). If the problem continues, replace the MCU PWB (PL 11.2).

Actuate the Full Stack Sensor Actuator. **The display indicates a “0”.**

**Y N**

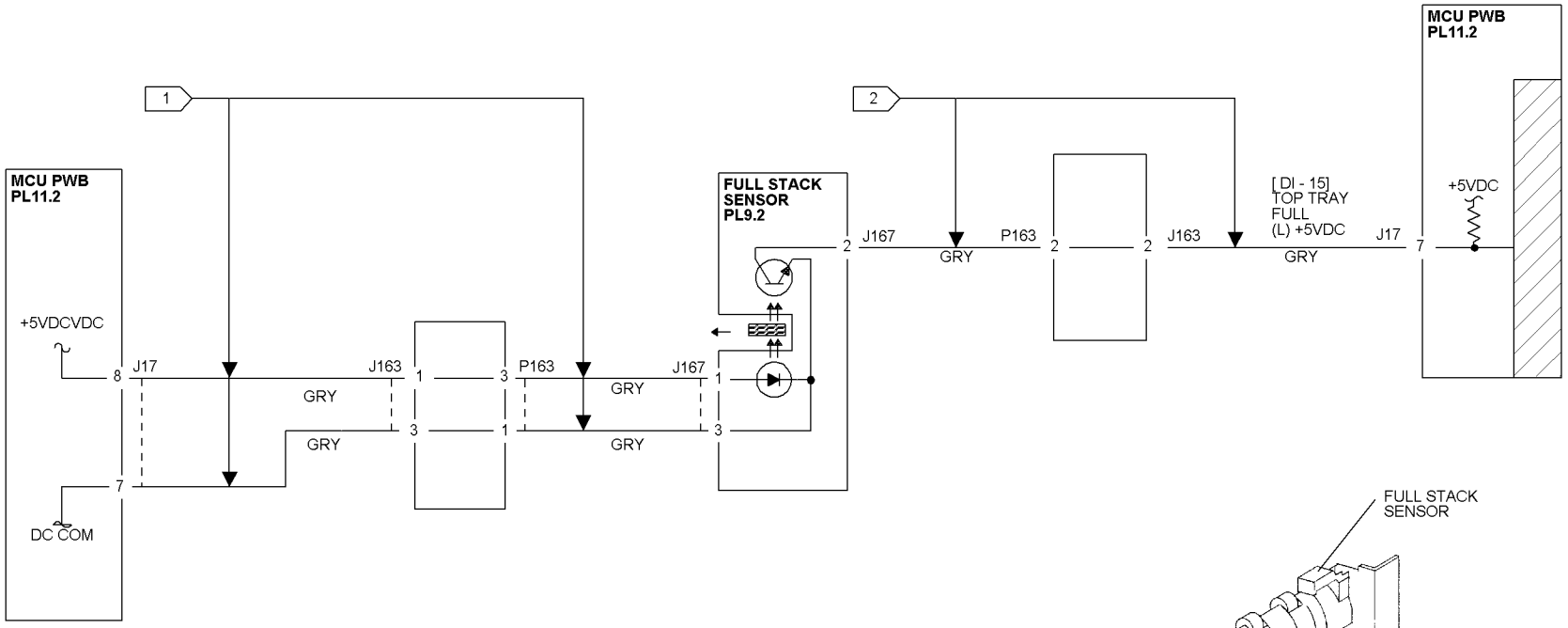
Go to Flag 1and Flag 2. Check the wires for an open circuit. **The wires are good.**

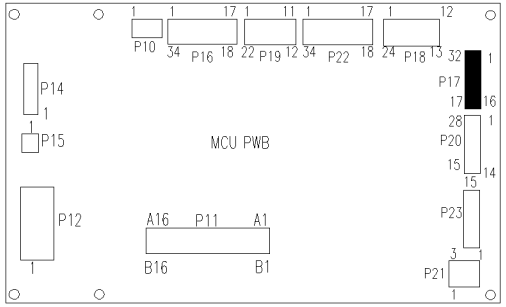
**Y N**

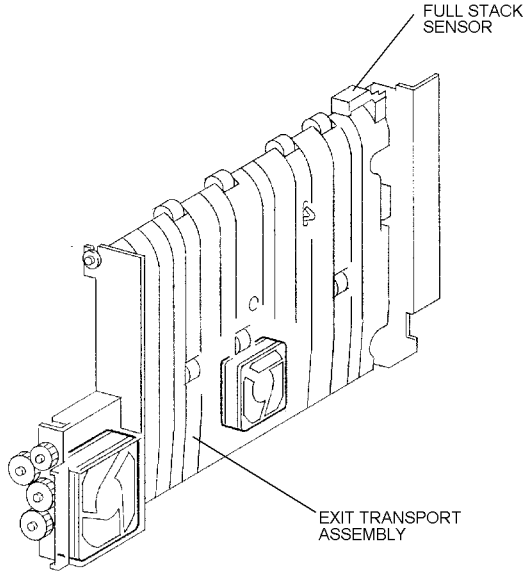
Repair the wires.

Replace the Full Stack Sensor (PL 9.2).

Replace the PWB (PL 11.2).




T708006A-WOL

**Figure 1 008-705 RAP Circuit Diagram**

# 008-706 OHP Sensor RAP

The Control Logic has sensed the signal, OHP Sensed (L) +5 VDC at an incorrect time.

## Initial Actions

Pull out the Bypass Tray/ Paper Transport Assembly and remove the OHP transparency from the Registration Paper Transport.

## Procedure

Enter the diagnostic mode. Enter code [DI-27]. **The display indicates a "1".**

**Y N**

Go to Flag 2. Check the wire for a short circuit to ground. **The wire is good.**

**Y N**

Repair the wire. Ensure that PJ 20, PJ 91 and PJ 98 are properly connected.

Replace the OHP Sensor (PL 4.6). If the problem continues, replace the MCU PWB (PL 11.2).

Actuate the OHP Sensor by placing a white piece of paper over the OHP Sensor on the Paper Transport. Close the Bypass Tray/ Paper Transport. Enter code [DI-27]. **The display indicates a "0".**

**Y N**

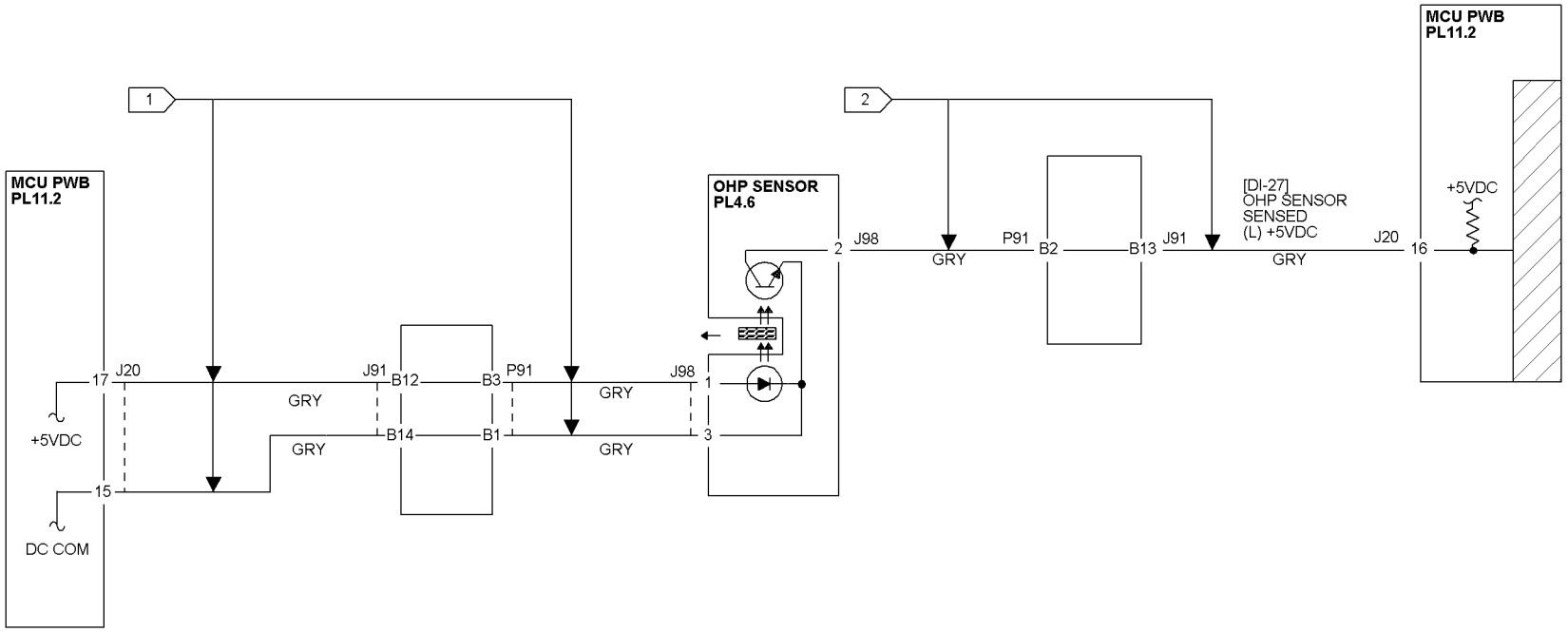
Go to Flag 1and Flag 2. Check for an open circuit. **The wires are good.**

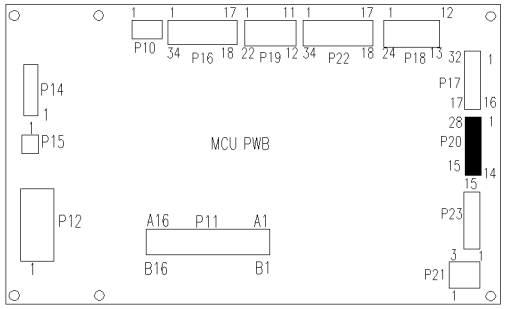
**Y N**

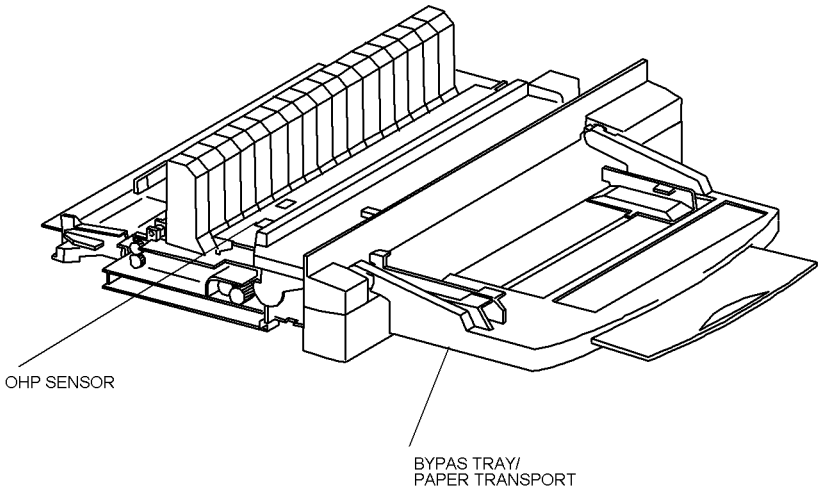
Repair the wires.

Ensure that the OHP Sensor is free from contamination. Clean as required. If the problem continues, replace the OHP Sensor (PL 4.6).

Replace the MCU PWB (PL 11.2).




T708007A-WOL

**Figure 1 008-706 RAP Circuit Diagram**

# 008-707 Duplex Tray Open RAP

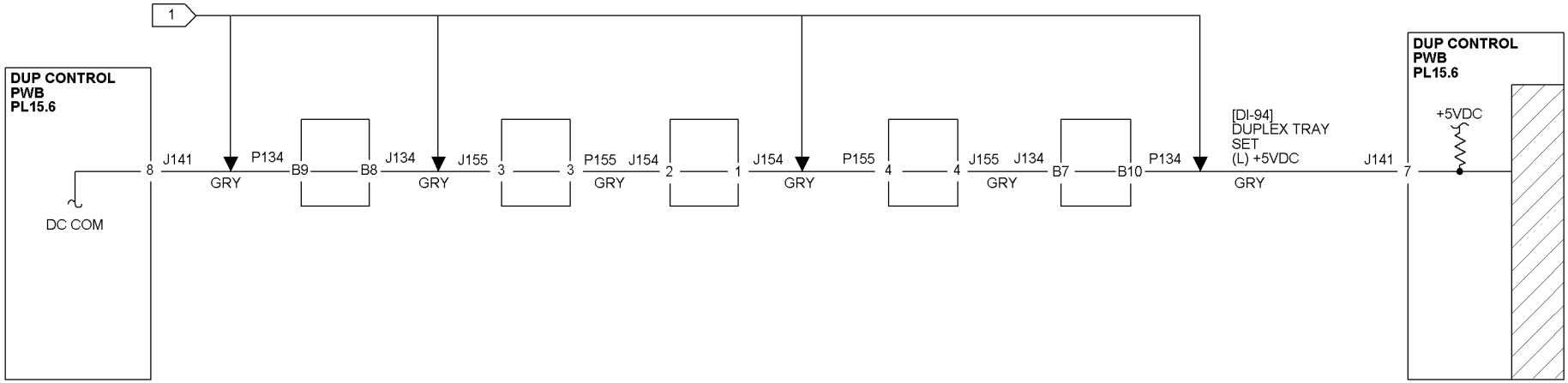
The Control Logic did not detect a Duplex Tray Set (L) +5 VDC signal.

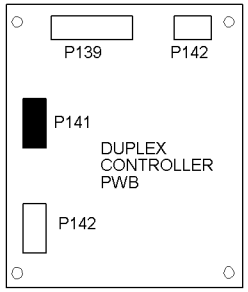
## Initial Actions

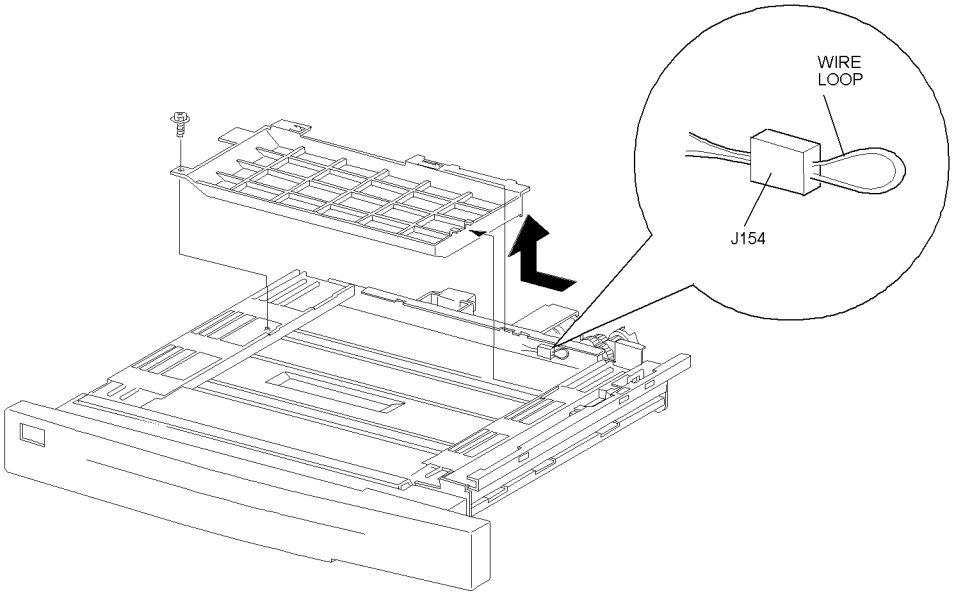
Push in the Duplex Tray Assembly.

## Procedure

Go to Flag 1. Check the wires for an open. Check the pins in the connectors for proper connection. The connector J 154 has a wire loop from J 154 pin 1 to pin 2. The connector J 154 is located in the Duplex Tray. If the wires and the connectors are good, replace the Duplex Control PWB (PL 15.6).




T708005A-WOL

**Figure 1 008-707 RAP Circuit Diagram**

# 009-321 TR0 Sensor RAP

The TR0 Sensor did not detect the IBT Belt in the home position within the specified time.

## Procedure

Access the Digital Output Test (GP 2). Enter code 54. Press the **Item/Enter** button. **The Process Motor energizes.**

**Y N**

Go to the 009-323 RAP.

Access the Digital Output Stop routine. Enter code 54. Press the **Item/Enter** button. Remove the Copy/Print Cartridge. Cheat the Left Front Cover Interlock. Access the Digital Output Test (GP 2). Reenter code 54. Press the **Item/Enter** button. **The IBT Belt rotates.**

**Y N**

Switch off the power. Remove the Process Drive Unit. Check the gear on the IBT Drive Roll (PL 7.3) for damage or contamination. If the gear is OK, replace the Process Drive Unit (PL 10.1).

***NOTE:*** *Ensure that the reflective patch on the IBT Belt is not blocking the TR0 Sensor. Use the DO component control code 54 to move the Belt if required.*

Access the DO Stop routine. Enter code 54. Press the **Item/Enter** button. Access the Digital Input Test (GP 2). Enter code 42. Press the **Item/Enter** button. **The display is 1.**

**Y N**

Disconnect J 57 from the TR0 Sensor. **There is +5 VDC from pin 1 to pin 2 of J 57.**

**Y N**

Go to Flag 1. Check for an open circuit or a short circuit to frame ground. If the wire is OK, replace the MCU PWB (PL 11.2).

Clean the TR0 Sensor and the reflective strip on the IBT Belt. If the problem persists, replace the TR0 Sensor (PL 7.3).

Use a reflective surface (such as an extendable inspection mirror) to block the TR0 Sensor. Re-enter code 42. Press the **Item/Enter** button. **The display is 0.**

**Y N**

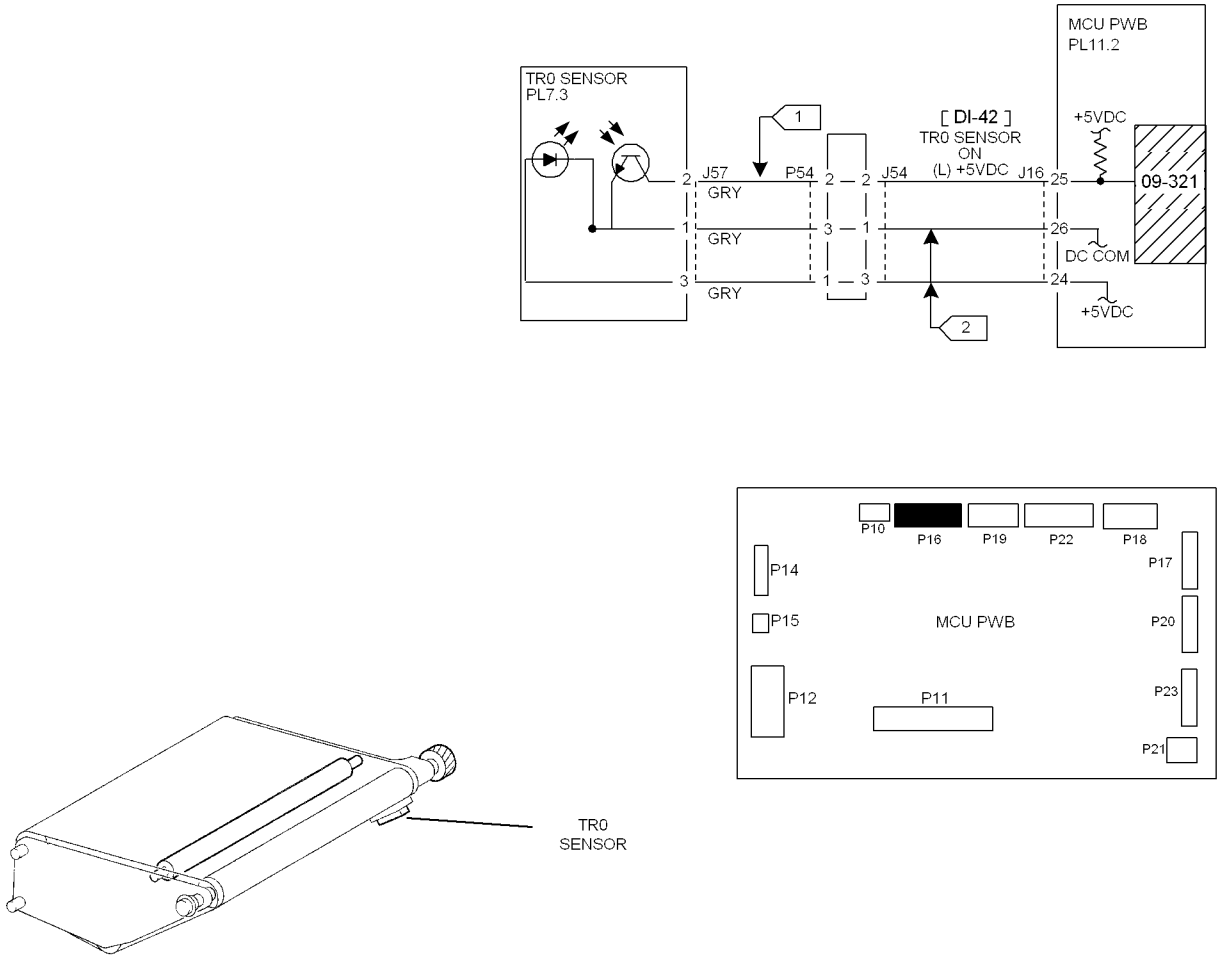
Disconnect J 57 from the TR0 Sensor. **There is +5 VDC from pin 1 to pin 3 of J 57.**

**Y N**

Go to Flag 2. Check for an open circuit or a short circuit to frame ground. If the wires are OK, replace the MCU PWB (PL 11.2).

Clean the TR0 Sensor and the reflective strip on the IBT Belt. If the problem persists, replace the TR0 Sensor (PL 7.3).

The problem appears to be intermittent. Check Flag 1 and Flag 2 for loose connections. If the wires are OK, replace the TR0 Sensor (PL 7.3). If the condition persists replace the MCU PWB (PL 11.2).




T-709003-A-WOL

**Figure 1 009-321 RAP Circuit Diagram**

# 009-323 Process Motor RAP

Control Logic detected the signal, Process Motor Fail (H) +5VDC.

## Procedure

Access the Digital Output Test (GP 2). Enter code 54. Press the **Item/Enter** button. **The Process Motor energizes.**

**Y N**

**There is less than 1 VDC from J 52 pin 2 to J 52 pin 5 on the Process Drive Unit (PL 10.1).**

**Y N**

Go to Flag 2. Check for an open circuit or a short circuit to frame ground. If the wires are OK, replace the MCU PWB (PL 11.2).

**There is +24 VDC from J 51 pin 2 to J 51 pin 1.**

**Y N**

**There is +24 VDC from J 32 pin 7 to J 32 pin 11.**

**Y N**

Go to the 001-703 RAP.

Go to Flag 1. Check for an open circuit.

Go to Flag 2. Check for an open circuit or a short circuit to frame ground. If the wires are OK, replace the Process Drive Unit (PL 10.1).

Access the Digital Output Stop routine. Enter code 54. Press the **Item/Enter** button. Remove the Print/Copy Cartridge. Cheat the Left Front Cover Interlock. Access the Digital Output Test (GP 2). Reenter code 54. Press the **Item/Enter** button. **The IBT Belt rotates.**

**Y N**

Switch off the power. Remove the Process Drive Unit. Check the gear on the IBT Drive Roll (PL 7.3) for damage or contamination. If the gear is OK, replace the Process Drive Unit (PL 10.1).

**There is less than 1 VDC from J 52 pin 1 to J 52 pin 5 on the Process Drive Unit (PL 10.1).**

**Y N**

Disconnect P/J 52 from the Process Drive Unit. **There is +5 VDC from J 52 pin 1 to J 52 pin 5 on the harness.**

**Y N**

Go to Flag 3. Check for an open circuit. If the wire is OK, replace the MCU PWB (PL 11.2).

Replace the Process Drive Unit (PL 10.1).

**There is between 1.5 and 3.5 VAC from J52 pin 6 to J52 pin 5 on the Process Drive Unit (PL 10.1).**

**Y N**

Disconnect P/J52 from the Process Drive Unit. **There is +5 VDC from J 52 pin 6 to J52 pin 5 on the harness.**

**Y N**

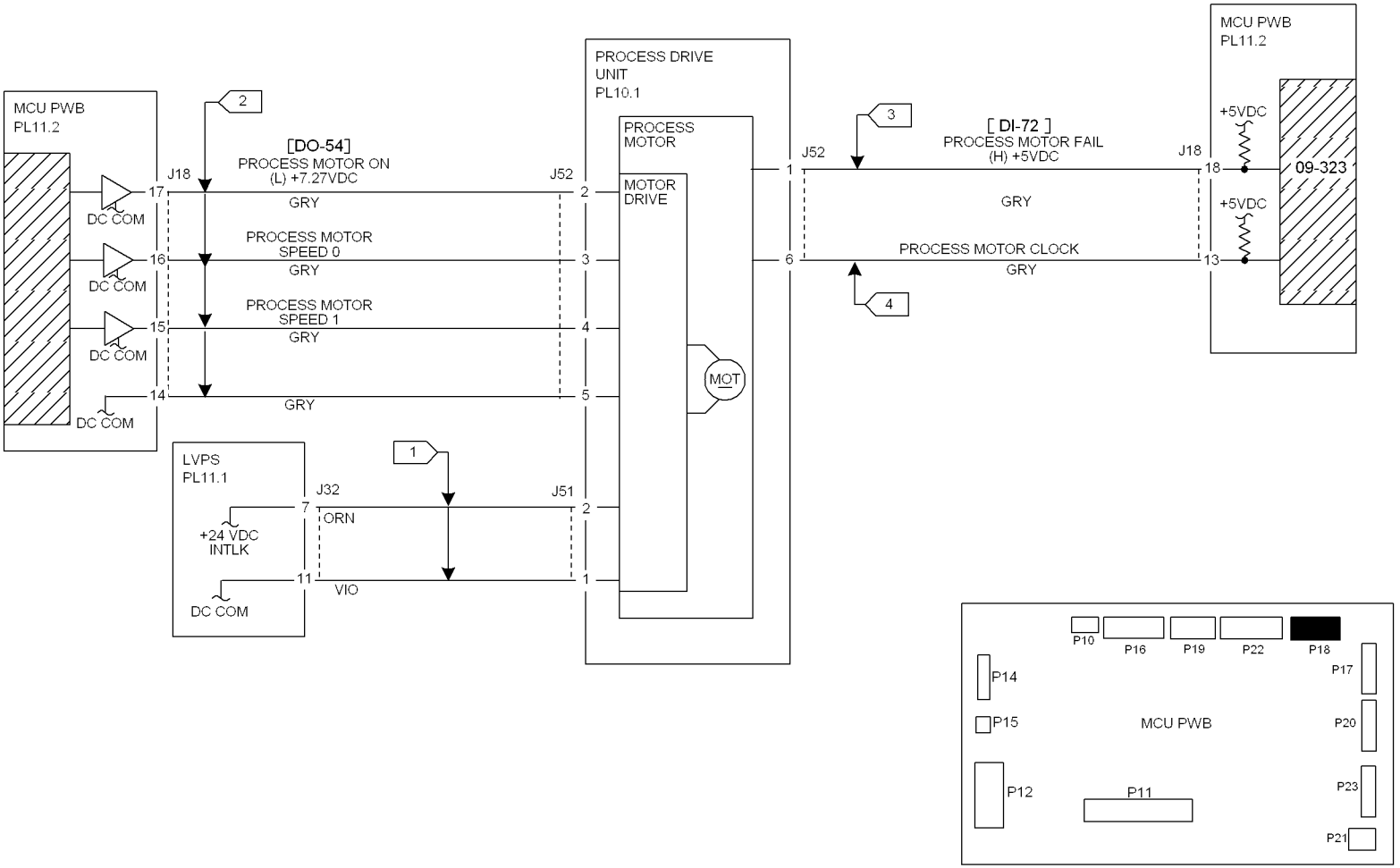
Go to Flag 4. Check for an open circuit or a short circuit to frame ground. If the wire is OK, replace the MCU PWB (PL 11.2).

**A B**

**A B**

Replace the Process Drive Unit (PL 10.1).

The problem appears to be intermittent. Check Flag 1, Flag 2, Flag 3, and Flag 4 for loose connectors or damaged wires. If the wires are OK, replace the Process Drive Unit (PL 10.1). If the condition persists replace the MCU PWB (PL 11.2).




T-709001-A-WOL

**Figure 1 009-323 RAP Circuit Diagram**

# 009-326 Rotary Motor RAP

One of the following situations occurred:

- The Rotary Sensor did not detect the Rotary Frame Assy. in the home position within 6 seconds from the signal, Rotary Motor On.
- During a print job, the speed of rotation deviated by more than the allowable amount.

## Initial Actions

Ensure that the Rotary Frame Assembly can be rotated manually. Ensure that there are no obstructions before attempting to test the motor under power.

## Procedure

Remove the rear cover. Monitor the Rotary Motor as the power-on selftest executes. **The Developer Frame rotates.**

**Y N**

**The Rotary Motor energized.**

**Y N**

**There is +24 VDC from J 246 pin 3 to J 246 pin 1 on the Rotary Motor PWB.**

**Y N**

**There is +24 VDC from J 33 pin 7 to J 33 pin 8 on the Low Voltage Power Supply.**

**Y N**

Go to the 001-703 RAP.

Go to Flag 1. Check for an open circuit.

**There is +5 VDC from pin 5 to pin 4 on J 245.**

**Y N**

Go to Flag 4. Check for an open circuit. If the wires are OK, replace the MCU PWB(PL 11.2).

Switch off the power. Connect the DVM from pin 2 to pin 4 on J 245. Switch on the power. Monitor the voltage as the power-on selftest executes. **The voltage is +5 VDC when power is switched on, and drops to less than 1 VDC for approximately 5 seconds.**

**Y N**

Go to Flag 6. Check for an open circuit or a short circuit to ground. If the wire is OK, replace the MCU PWB (PL 11.2).

Switch off the power. Connect the DVM from pin 3 to pin 4 on J 245. Switch on the power. Monitor the voltage as the power-on selftest executes. **The voltage is +5 VDC when power is switched on, and drops to between +2 and +3 VDC for approximately 5 seconds.**

**Y N**

Go to Flag 5. Check for an open circuit or a short circuit to ground. If the wire is OK, replace the MCU PWB (PL 11.2).

Switch off the power. Connect the DVM from pin 1 to pin 4 on J 245. Switch on the power. Monitor the voltage as the power-on selftest executes. **The voltage is +5 VDC when power is switched on, and drops to less than 1 VDC for approximately 5 seconds.**

**A B**

**Y N**

Go to Flag 7. Check for an open circuit or a short circuit to ground. If the wire is OK, replace the MCU PWB (PL 11.2).

Replace the Rotary Motor PWB (PL 10.1). If the problem persists, replace the Rotary Motor (PL 10.1).

Check the gears on the Rotary Motor (PL 10.1) and the Rotary Frame (PL 6.1) for damage or contamination. Clean, repair, or replace as required.

Remove the Top Cover. Connect the DVM from J 58 pin 2 to frame ground. Rotate the Rotary Frame until the actuator on the rear of the frame is blocking the Rotary Sensor (PL 7.2). **+5 VDC is measured.**

**Y N**

Disconnect P 58 from the Rotary Sensor. **There is +5 VDC from J 58 pin 2 on the Rotary Sensor Harness to frame ground.**

**Y N**

Go to Flag 4. Check for a short circuit to frame ground. If the wire is OK, replace the MCU PWB (PL 11.2).

Replace the Rotary Sensor (PL 6.1).

Rotate the Rotary Frame until the actuator is no longer blocking the Rotary Sensor. **Less than 1 VDC is measured.**

**Y N**

**There is +5 VDC from J 58 pin 1 to J 58 pin 3 on the Rotary Sensor.**

**Y N**

Go to Flag 2. Check for an open circuit. If the wires are OK, replace the MCU PWB (PL 11.2).

**There is less than 1 VDC from P58 pin 2 to P58 pin 3.**

**Y N**

Replace the Rotary Sensor (PL 6.1).

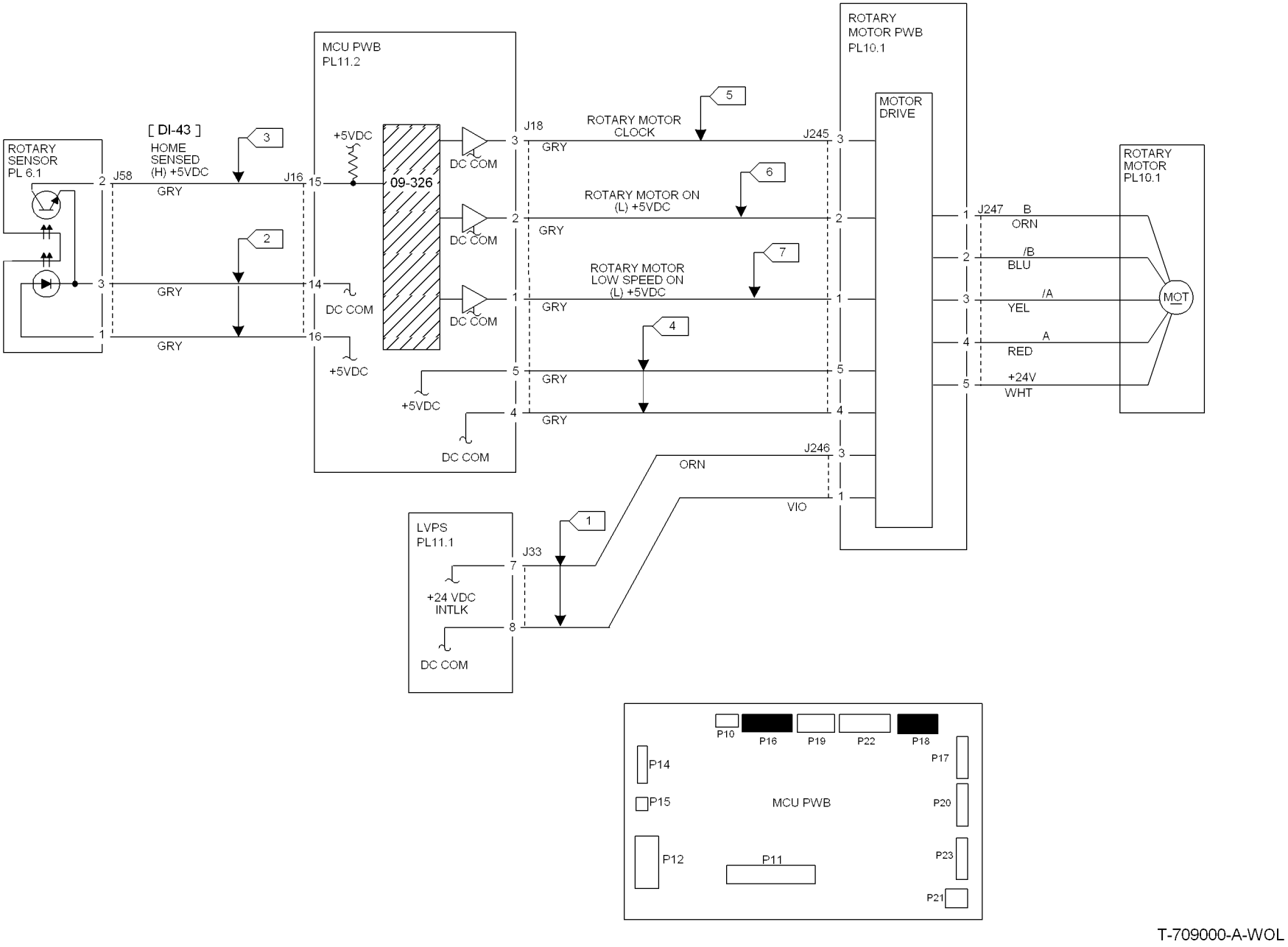
Go to Flag 3. Check for an open circuit. If the wire is OK, replace the MCU PWB (PL 11.2).

Check for obstructions between the Base Frame and the Rotary Frame.

Examine the Front and Rear Bearings for the Rotary Frame (PL 6.1) for wear or contamination that may inhibit rotation. Clean or replace as required.

If the problem persists, replace the Rotary Motor PWB (PL 10.1). If the problem remains unresolved, replace the Rotary Motor (PL 10.1).

If the problem remains unresolved, or if erratic or intermittent operation is observed, go to Figure 1 and check the harnesses shown for loose or damaged connectors. If the wires are OK, replace the MCU PWB (PL 11.2).




T-709000-A-WOL

**Figure 1 009-326 RAP Circuit Diagram**

# 009-340 ADC Cleaning Failure RAP

Output of ADC sensor is below limit immediately after cleaning.

## Procedure

Access the Digital Output Test (GP 2). Enter code 67. Press the **Item/Enter** button. **There is an audible click from the ADC Solenoid approximately every second.**

**Y N**

Access the DO Stop Test. Enter code 67. Press the **Item/Enter** button. **There is +24 VDC from J 81 pin 1 to frame ground.**

**Y N**

**There is +24 VDC from J 81 pin 2 to frame ground.**

**Y N**

Go to Flag 2. Check for an open circuit. If the wire is OK, replace the MCU PWB (PL 11.2).

Replace the ADC Sensor (PL 5.1).

Access the Digital Output Test (GP 2). Enter code 67. Press the **Item/Enter** button. **There is less than 1 VDC from J 81 pin 1 to frame ground.**

**Y N**

Go to Flag 1. Check for an open circuit. If the wire is OK, replace the MCU PWB (PL 11.2).

Replace the ADC Sensor (PL 5.1).

Access the DO Stop Test. Enter code 67. Press the **Item/Enter** button.
Remove the IBT Inner Cover (PL 1.1) in order to access P/J 81.
Reinstall the Copy/Print Cartridge.
Access the Digital Input Test (GP 2). Enter code 72. Press the **Item/Enter** button.
Monitor the voltage from J 81 pin 4 to frame ground as the Copy/Print Cartridge is removed. **The voltage changes from between +3 and +4 VDC when the Copy/Print Cartridge is installed to less than 1 VDC when the Copy/Print Cartridge is removed.**

**Y N**

**There is +5 VDC from pin 6 to pin 3 on J 81.**

**Y N**

Go to Flag 3. Check for an open circuit. If the wires are OK, replace the MCU PWB (PL 11.2).

**There is less than 1 VDC from J 81 pin 5 to frame ground.**

**Y N**

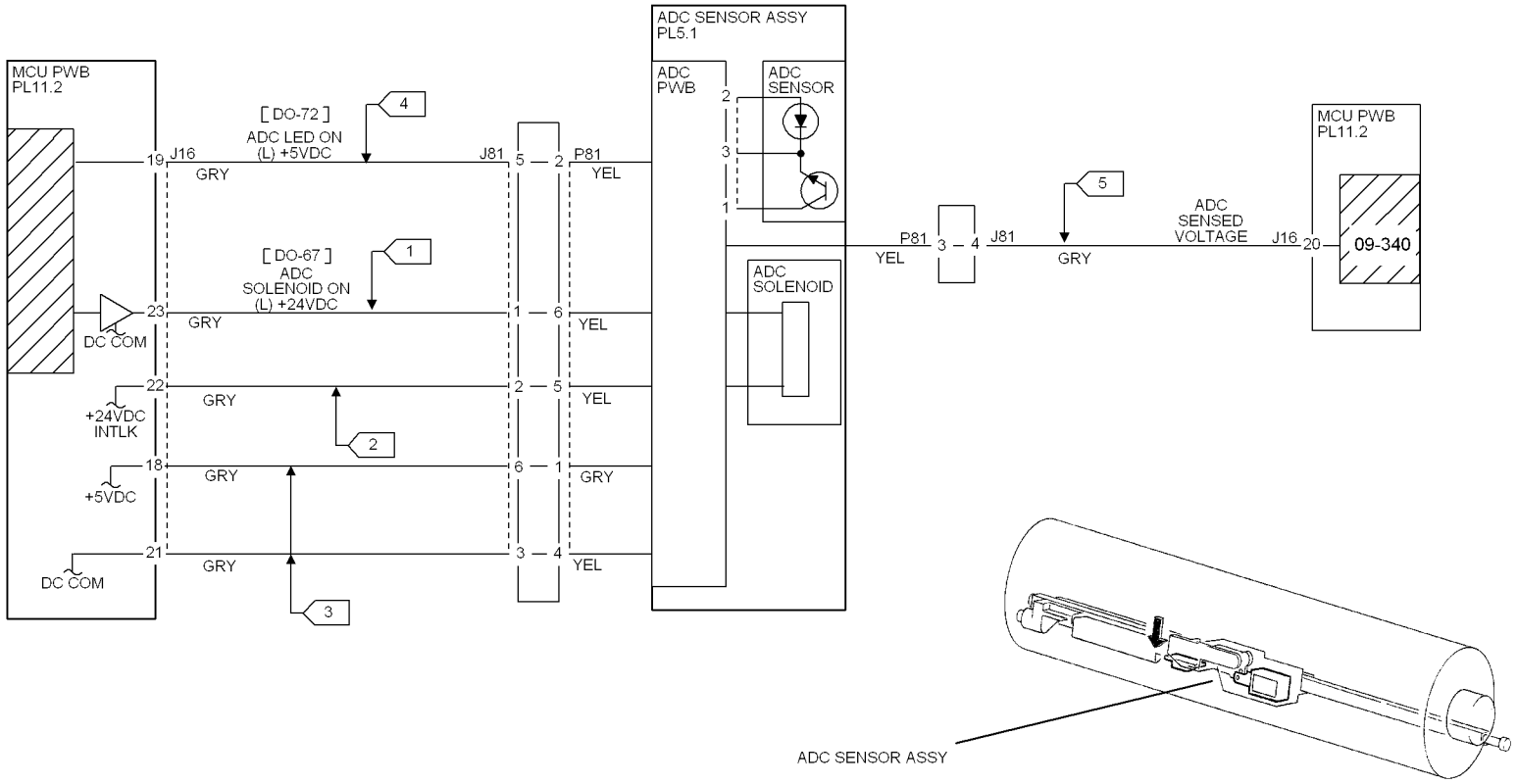
Go to Flag 4. Check for an open circuit. If the wire is OK, replace the MCU PWB (PL 11.2).

Go to Flag 5. Check for an open circuit or a short circuit to ground. If the wire is OK, replace the ADC Sensor (PL 5.1). If the problem remains, replace the MCU PWB (PL 11.2).

The circuit appears to be functioning correctly. Check the following:

- Go to Figure 1. Check for loose or damaged connectors.
- Ensure that the ADC Sensor is mounted correctly.
- Examine the wiper attached to the ADC Solenoid. make sure that it is intact, and free from damage or contamination

If the problem remains, replace the ADC Sensor (PL 5.1). If this does not resolve the fault, replace the MCU PWB (PL 11.2).




T-709002-A-WOL

**Figure 1 009-340 RAP Circuit Diagram**

# 009-341 ADC Sensor Background RAP

Control Logic has determined that the ADC sensor output while measuring non-imaged area is higher than specification.

## Procedure

**WARNING**

**HIGH VOLTAGE!**

**Exercise care when making the voltage check in the following step.**

**CAUTION**

*Do not allow [DO-0E] to run for more than 10 seconds. As soon as the measurement is complete, use the DO Stop Test to cancel switch off the bias.*

Access the Digital Output Test (GP 2). Enter code 0E. Press the **Item/Enter** button. **There is between -400 and -600 VDC from the A terminal of the HVPS to frame ground.**

**Y N**

**There is between -250 VDC and -350 VDC present.**

**Y N**

**There is +24 VDC from pin 1 to pin 3 on J41.**

**Y N**

Go to Flag 4. Check for an open circuit. If the wire is OK, go to the 001-703 RAP

Access the Digital Output Test (GP 2). Enter code 0E. Press the **Item/Enter** button. **There is less than 1 VDC from pin 1 to pin 13 of J 42 on the HVPS.**

**Y N**

Go to Flag 2. Check for an open circuit. If the wire is OK, replace the MCU PWB (PL 11.2).

Go to Flag 3. Check for an open circuit or a short circuit to ground. If the wires are OK, replace the HVPS (PL 11.1). If the problem persists, replace the MCU PWB (PL 11.2).

Go to Flag 3. Check for an open circuit or a short circuit to ground. Go to Flag 5. Check for an open circuit. If the wires are OK, check the BCR connector (PL 5.1) and the bias connector on the Copy/Print Cartridge for damage or contamination. Clean, repair or replace as required.

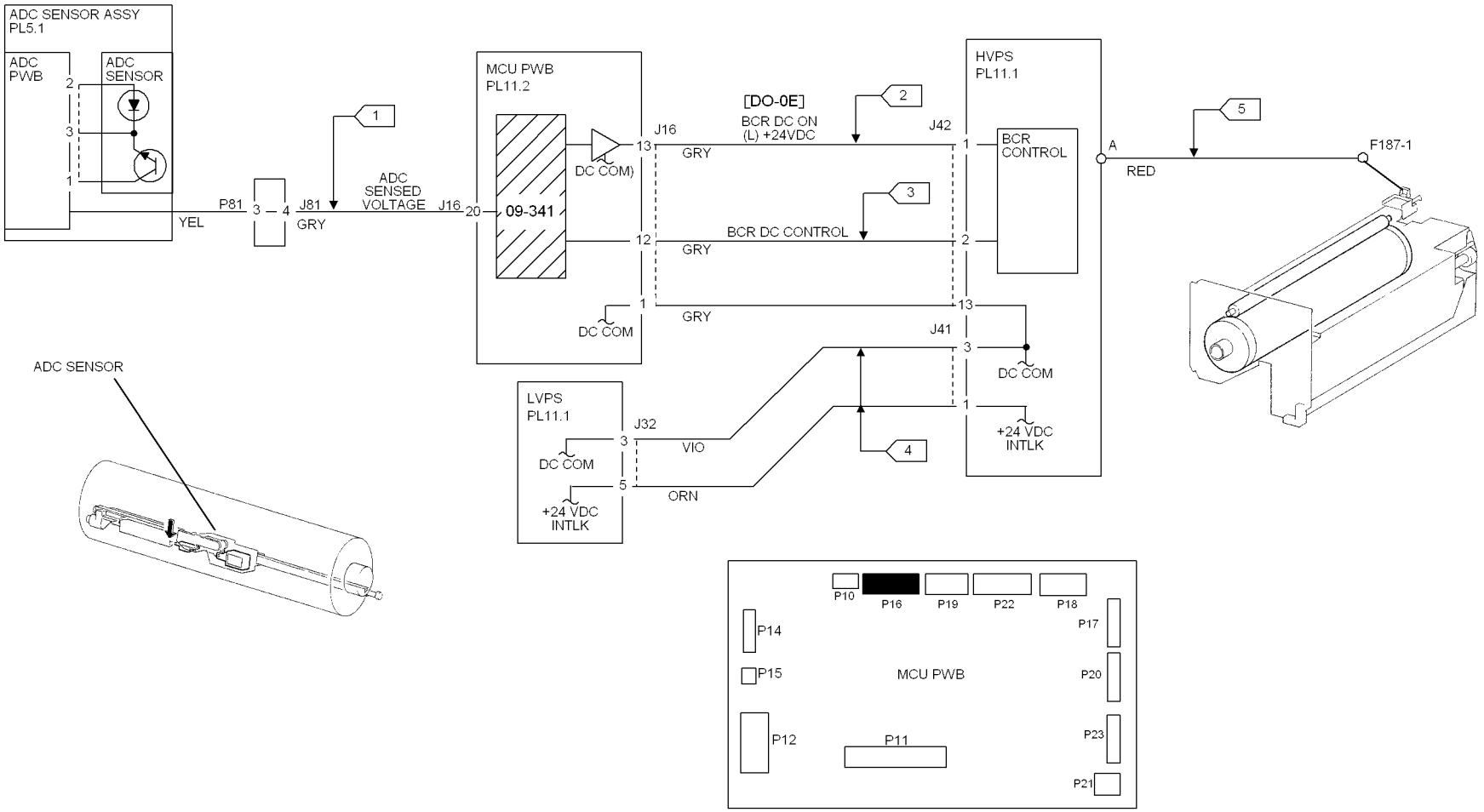
If the problem persists, replace the Copy/Print Cartridge (PL 5.1).

**The ADC Sensor is dirty.**

**Y N**

Go to Flag 1. Check for an open circuit. If the wire is OK, replace the ADC Sensor (PL 5.1). If the problem persists, replace the MCU PWB (PL 11.2).

Go to the 009-340 RAP.




T-709010-A-WOL

**Figure 1 009-341 RAP Circuit Diagram**

# 009-342 Patch Error RAP

ADC sensor output measuring Cin 50% patch area is lower than spec. after adjustment

## Procedure

Access the Digital Output Test (GP 2). Enter code 53. Press the **Item/Enter** button. Enter code 56. Press the **Item/Enter** button. **The Dispense Clutch energizes.**

**Y N**

Access the DO Stop Test. Enter code 56. Press the **Item/Enter** button. **There is +24 VDC from J 55 pin 1 to frame ground.**

**Y N**

**There is +24 VDC from J 55 pin 2 to frame ground.**

**Y N**

Go to Flag 9. Check for an open circuit. If the wire is OK, replace the MCU PWB (PL 11.2).

Replace the Dispense Clutch (PL 10.1).

Access the Digital Output Test (GP 2). Enter code 56. Press the **Item/Enter** button. **There is less than 1 VDC from J 55 pin 1 to frame ground.**

**Y N**

Go to Flag 8. Check for an open circuit. If the wire is OK, replace the MCU PWB (PL 11.2).

Replace the Dispense Clutch (PL 10.1).

### WARNING

**HIGH VOLTAGE!**

**Exercise care when making the voltage checks in the following steps.**

Access the Digital Output Test (GP 2). Enter code 0C. Press the **Item/Enter** button. **There is between -450 and -600 VDC from the C terminal on the HVPS to frame ground.**

**Y N**

**There is less than 1 VDC from J 42 pin 4 to frame ground.**

**Y N**

Go to Flag 5 and Flag 12. Check for an open circuit. If the wire is OK, replace the MCU PWB (PL 11.2).

Go to Flag 4. Check for an open circuit. If the wire is OK, replace the HVPS (PL 11.1). If the problem persists, replace the MCU PWB (PL 11.2).

Access the DO Stop Test. Enter code 0C. Press the **Item/Enter** button. Re-access the DO Test. Enter code 0D. Press the **Item/Enter** button. **There is between 600 and 700 VAC from the C terminal on the HVPS to frame ground.**

**Y N**

**There is less than 1 VDC from J 42 pin 3 to frame ground.**

**Y N**

Go to Flag 5 and Flag 12. Check for an open circuit. If the wire is OK, replace the MCU PWB (PL 11.2).

Go to Flag 4. Check for an open circuit. If the wire is OK, replace the HVPS (PL 11.1). If the problem persists, replace the MCU PWB (PL 11.2).

**A**

Run a copy of the Test Page. Switch off the power while the print is being developed. Pull out the Print/Copy Cartridge. Examine the surface of the drum for a developed image. **Part of a developed image is present on the drum.**

**Y N**

Access the Digital Output Test (GP 2). Enter code 0E. Press the **Item/Enter** button. **There is between -400 and -700 VDC from the A terminal of the HVPS to frame ground.**

**Y N**

**There is between -250VDC and -350VDC present.**

**Y N**

Access the Digital Output Test (GP 2). Enter code 0E. Press the **Item/Enter** button. **There is less than 1 VDC from pin 1 to pin 13 of J 42 on the HVPS.**

**Y N**

Go to Flag 2. Check for an open circuit. If the wire is OK, replace the MCU PWB (PL 11.2).

Go to Flag 3. Check for an open circuit or a short circuit to ground. If the wires are OK, replace the HVPS (PL 11.1). If the problem persists, replace the MCU PWB (PL 11.2).

Go to Flag 3. Check for an open circuit or a short circuit to ground. Go to Flag 10. Check for an open circuit. If the wires are OK, check the BCR connector (PL 5.1) and the bias connector on the Copy/Print Cartridge for damage or contamination. Clean, repair, or replace as required.
If the problem persists, replace the Copy/Print Cartridge (PL 5.1).

**The ADC Sensor is dirty.**

**Y N**

Go to Flag 1. Check for an open circuit. If the wire is OK, replace the ADC Sensor (PL 5.1). If the problem persists, replace the MCU PWB (PL 11.2).

Go to the 009-340 RAP.

Go to Flag 1. Check for an open circuit. If the wire is OK, replace the ADC Sensor (PL 5.1).

**A**

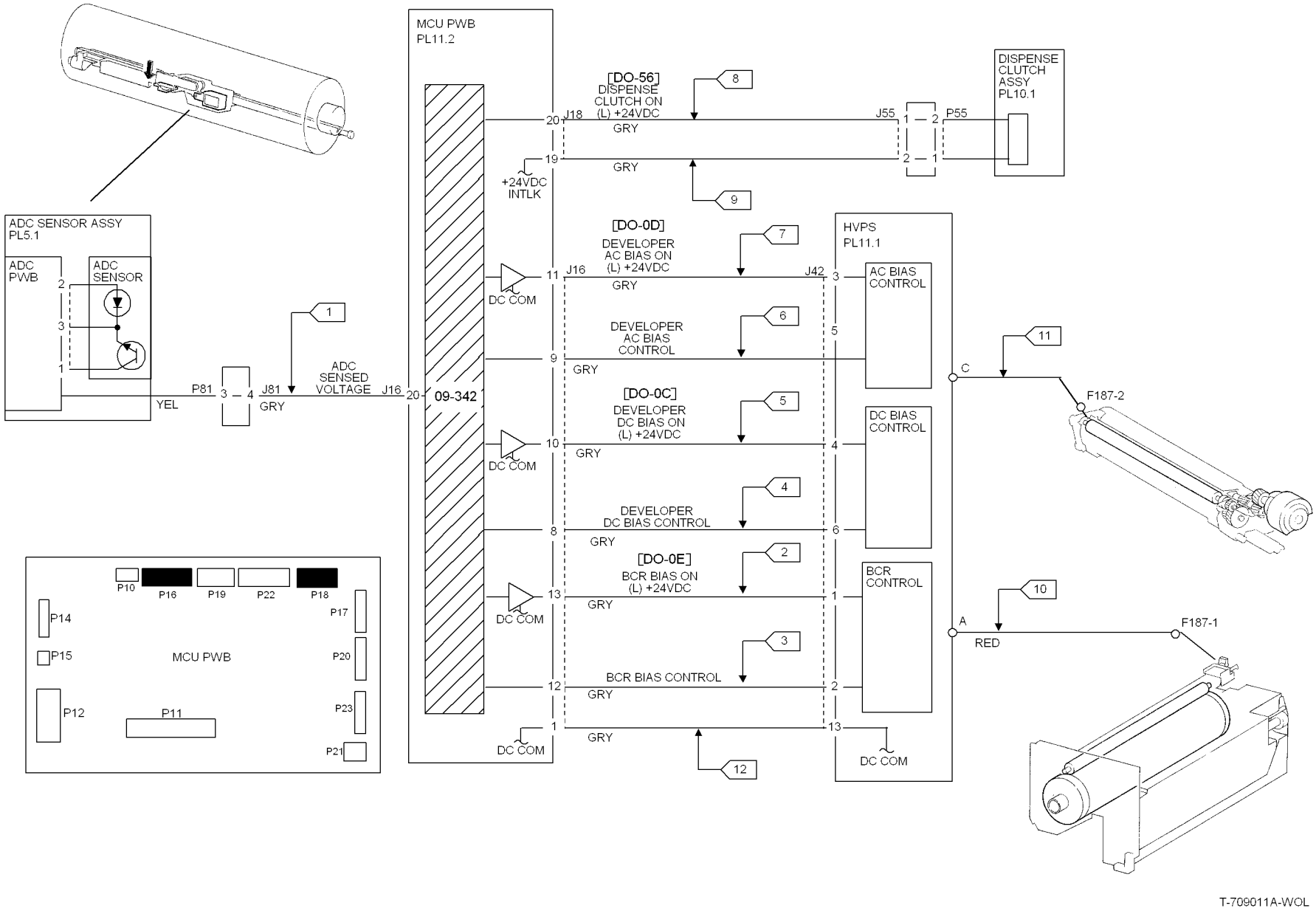



**Figure 1 009-342 RAP Circuit Diagram**

## 009-343 PCDC Error RAP

PCDC cal count below 100

### Procedure

Switch off the power, then switch on the power. If the fault is still present, replace the MCU PWB (PL 11.2).

## 009-344 Image Density Error RAP

Image density (measured by PCDC method) of first 70 mm of lead edge of image exceeds design spec (280%).

### Procedure

Switch off the power, then switch on the power. If the fault is still present, replace the MCU PWB (PL 11.2).

# 009-358 BTR 2 Home Position RAP

The BTR 2 Cam Sensor does not detect the cam in the home position within the specified time

## Procedure

**The BTR 2 Cam Clutch is always energized**

**Y N**

Access the Digital Output Test (GP 2). Enter code 53. Press the **Item/Enter** button. Enter code 70. Press the **Item/Enter** button. **The BTR 2 Cam Clutch energizes.**

**Y N**

Disconnect P/J 64. **There is +24 VDC from pin 4 to pin 1 on J 64.**

**Y N**

**There is +24 VDC from pin 4 to frame ground.**

**Y N**

Go to Flag 4. Check for an open circuit. If the wire is OK, replace the MCU PWB (PL 11.2).

Go to Flag 3. Check for an open circuit. If the wire is OK, replace the MCU PWB (PL 11.2).

Replace the BTR 2 Cam Clutch (PL 7.4).

Access the DO Stop Test. Enter code 53. Press the **Item/Enter** button. Enter code 70. Press the **Item/Enter** button.

Remove the BTR 2 Assembly (REP 9.18) in order to access the BTR 2 Cam. Rotate the cam so that the BTR 2 Cam Sensor is not blocked.

Access the Digital Input Test (GP 2). Enter code 76. Press the **Item/Enter** button. **The display is 1.**

**Y N**

Disconnect P/J 100. Reenter code 76. **The display is 1.**

**Y N**

Go to Flag 1. Check for a short circuit to ground. If the wire is OK, replace the MCU {PWB (PL 11.2).

Replace the BTR 2 Cam Sensor (PL 7.4).

Rotate the cam so that the BTR 2 Cam Sensor is blocked. Reenter code 76. **The display is 0.**

**Y N**

Disconnect P/J 100. **There is +5 VDC from pin 1 to pin 3 on J 100.**

**Y N**

Go to Flag 2. Check for an open circuit. If the wires are OK, replace the MCU {PWB (PL 11.2).

Replace the BTR 2 Cam Sensor (PL 7.4).

The circuit appears to be operating correctly. Go to Figure 1. Check for loose connections, dirty sensor, or damage to the gears, cam, or sensor actuator. Clean, repair, or replace as required (PL 7.4).

Disconnect P/J 64. **The BTR 2 Cam Clutch deenergized.**

**Y N**

Replace the BTR 2 Cam Clutch (PL 7.4).

Go to Flag 3. Check for a short circuit to ground. If the wire is OK, replace the MCU PWB (PL 11.2).

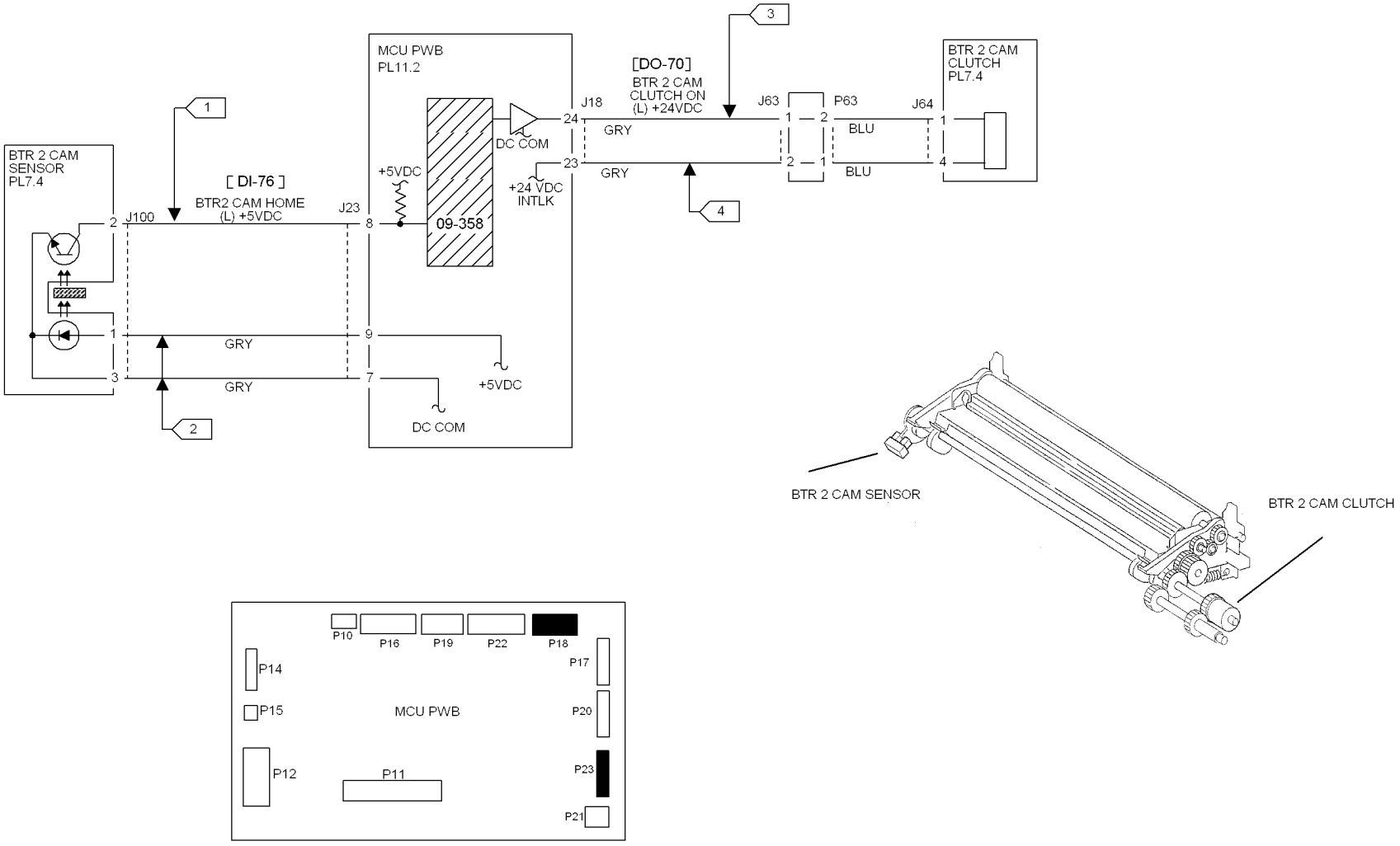



**Figure 1 009-358 RAP Circuit Diagram**

# 009-359 BTR 2 Bias RAP

The output current monitor value for BTR 2 bias is outside of the allowable range.

## Procedure

**There is +24 VDC from J 42 pin 10 to J 42 pin 13 on the High Voltage Power Supply.**

**Y N**

Go to Flag 1 and Flag 5. Check for an open circuit or a short circuit to frame ground. If the wires are OK, replace the MCU PWB (PL 11.2).

Access the Digital Output Test (GP 2). Enter code 0A. Press the **Item/Enter** button. **There is less than 1 VDC from pin 10 to pin 13 on J 42.**

**Y N**

Replace the MCU PWB (PL 11.2).

Remove the BTR 2 Assembly (PL 7.5). Check the following:

- Check for dirt or damage to the BTR 2 Roll.
- Ensure that the BTR 2 Cleaner is correctly installed.
- Check for damage or corrosion on the Ground Contact Spring.

Clean, repair, or replace as required. **The fault code is still declared.**

**Y N**

The problem is resolved.

Remove the IBT Assembly (PL 7.2). Check the following:

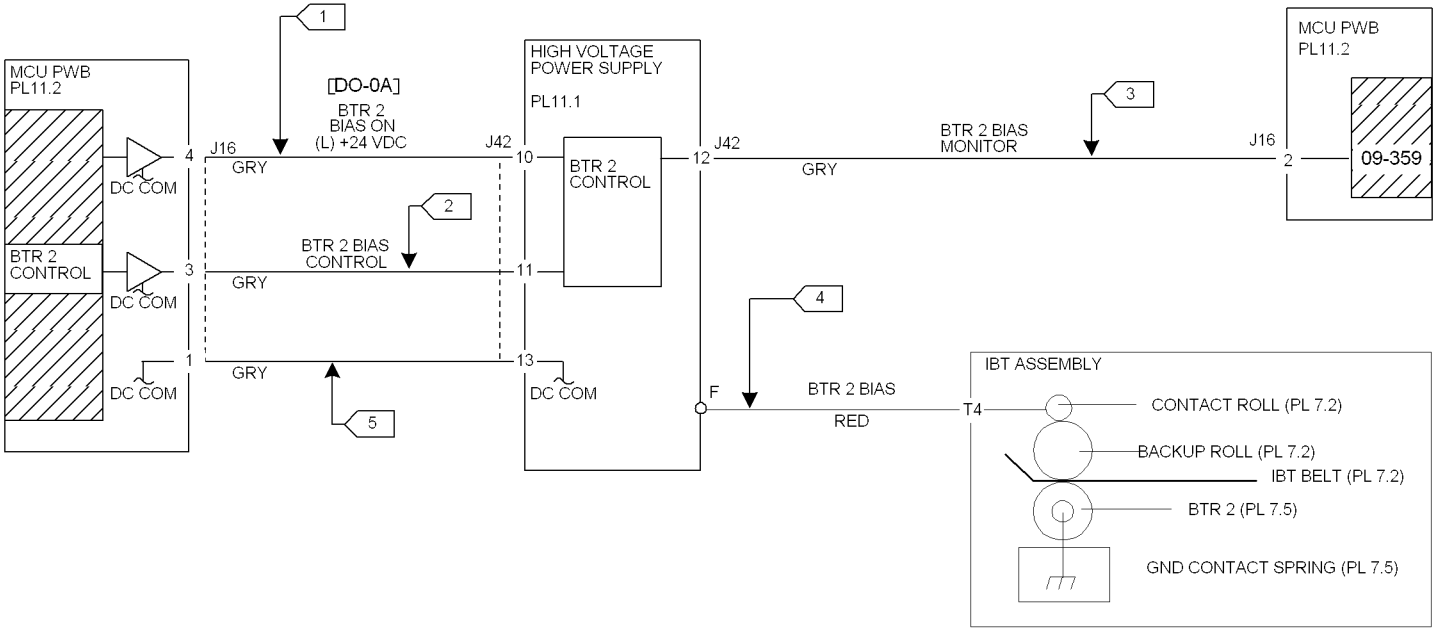
- Go to Flag 4. Check for continuity.
- Check for contamination of, or damage to the Contact Roll and the Backup Roll
- Check for toner buildup on the IBT Belt, and between the Contact Roll and the Backup Roll.

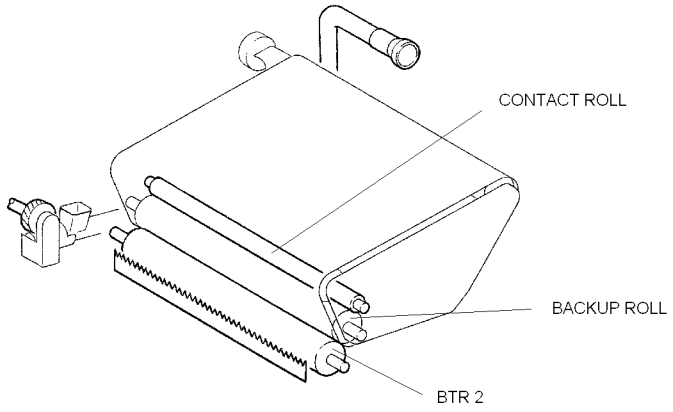
Clean, repair, or replace as required. **The fault code is still declared.**

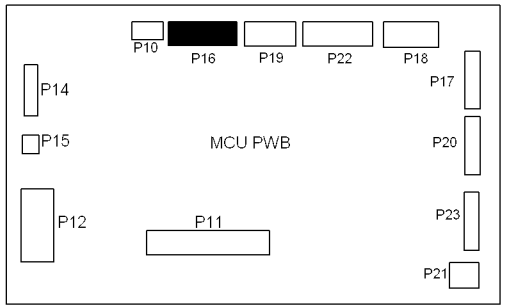
**Y N**

The problem is resolved.

Go to Flag 2, Flag 3, and Flag 5. Check for an open circuit or a short circuit to ground. If the wires are OK, replace the High Voltage Power Supply (PL 11.1). If the problem continues, replace the MCU PWB (PL 11.2).




T-709006-A-WOL

**Figure 1 009-359 RAP Circuit Diagram**

# 009-360 Developer Fan RAP

Control Logic detects the signal, Fan Alarm (L) +5 VDC.

## Procedure

Access the Digital Output Test (GP 2). Enter code 61. Press the **Item/Enter** button. **The Developer Fan energizes.**

**Y N**

**There is +24 VDC from pin 4 to pin 1 on J 82.**

**Y N**

Disconnect J 82. **There is +24 VDC from pin 4 to pin 1 on J 82.**

**Y N**

Go to Flag 1. Check for an open circuit. If the wires are OK, replace the MCU PWB (PL 11.2).

Replace the Developer Fan (PL 11.1).

Replace the Developer Fan (PL 11.1).

Access the Digital Output Test (GP 2). Enter code 60. Press the **Item/Enter** button. **The Developer Fan runs faster.**

**Y N**

Go to Flag 2. Check for an open circuit. If the wire is OK, replace the MCU PWB (PL 11.2).

**There is less than 1 VDC from pin 2 to pin 1 on the Developer Fan Connector, J 82.**

**Y N**

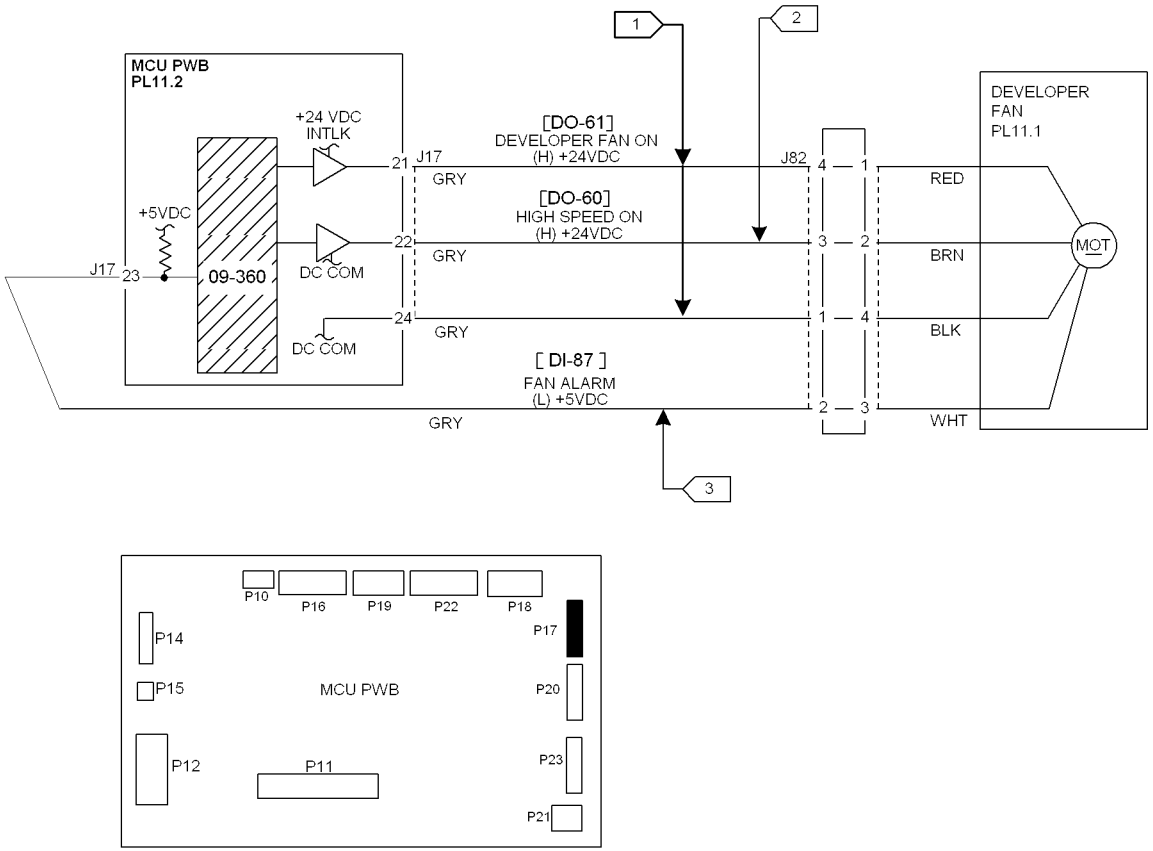
The problem appears to be intermittent. Go to Figure 1. Check the wiring for loose or damaged connectors, pinched wires, or contamination. If the wires are OK, replace the Developer Fan (PL 11.1). If the problem continues, replace the MCU PWB (PL 11.2).

Disconnect J 82. **There is +5 VDC from pin 2 to pin 1 on J 82.**

**Y N**

Go to Flag 3. Check for a short circuit to frame ground. If the wire is OK, replace the MCU PWB (PL 11.2).

Replace the Developer Fan (PL 11.1).




T709004-A-WOL

**Figure 1 009-360 RAP Circuit Diagram**

# 009-700 Toner Cartridge Detached RAP

Control Logic does not detect the presence of one or more Dry Ink cartridges.

## Initial Actions

If the fault is reported for a single cartridge, check the outboard end of the cartridge for dirt or debris. If the fault is displayed for all cartridges, continue with this RAP.

## Procedure

***NOTE:*** *The output of the Cartridge Sensor is high when blocked and low when unblocked.*

Access the Digital Output Test (GP 2). Enter code 75. Press the **Item/Enter** button. Access the Digital Input Test (GP 2). Enter code 67. Press the **Item/Enter** button. **The display is 1.**

**Y N**

**CAUTION**

*Do not allow the UI PWB to come in contact with the metal frame of the machine.*

Remove the Top Cover but keep the UI connected to the ESS. Disconnect J 87.
Access the Digital Output Test (GP 2). Enter code 75. Press the **Item/Enter** button. Access the Digital Input Test (GP 2). Enter code 67. Press the **Item/Enter** button. **The display is 1.**

**Y N**

Go to Flag 2. Check for a short circuit. If the wire is OK, replace the MCU PWB (PL 11.2).

Replace the Cartridge Sensor (PL 6.1).

Remove a Dry Ink cartridge. Turn the Rotary Assembly until the space for the missing cartridge is under the sensor (approximately 15 degrees past vertical). Enter code 75. Press the **Item/Enter** button. **The display is 0.**

**Y N**

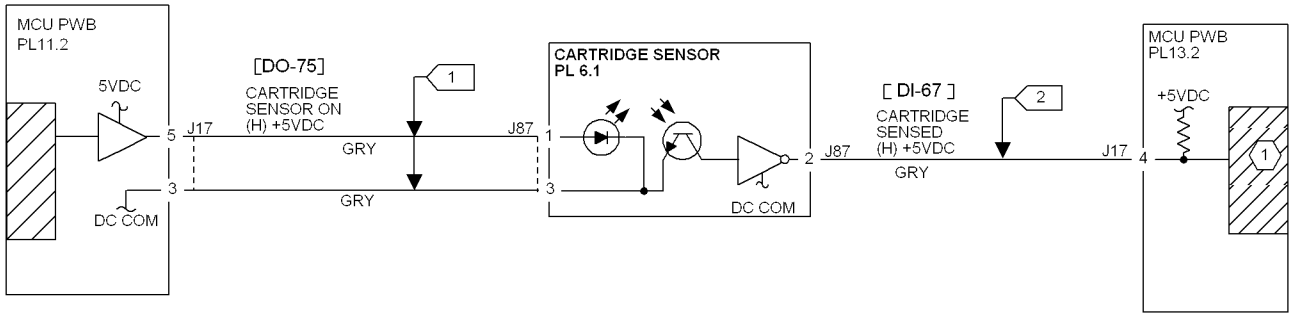
Remove the Top Cover but keep the UI connected to the ESS. Disconnect J 87.
Access the Digital Output Test (GP 2). Enter code 75. Press the **Item/Enter** button. **There is + VDC from J 87 pin 1 to J 87 pin 3.**

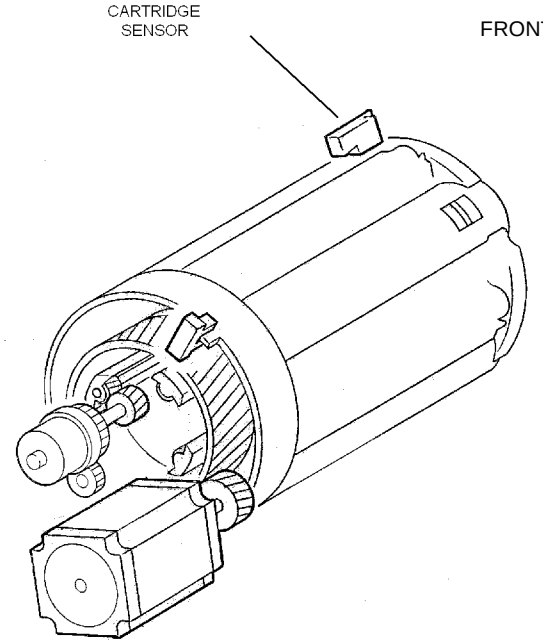
**Y N**

Go to Flag 1. Check for an open circuit. If the wires are OK, replace the MCU PWB (PL 11.2).

Replace the Cartridge Sensor (PL 6.1).

The problem appears to be intermittent. Check for correct mounting of the sensor. Go to Figure 1. Check for loose or damaged connections. If the wires are OK, go to the 009-701 RAP.



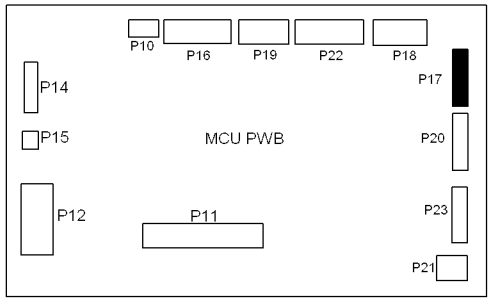




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**Figure 1 009-700 RAP Circuit Diagram**

# 009-701 Toner Cartridge Empty RAP

ADC sensor detects a drop in Toner Concentration (TC) that is not restored by dispense operation.

## Initial Actions

If a single color is declaring the fault, replace the Dry Ink cartridge. If the problem persists, or if the fault is declared for all colors, proceed with this RAP.

## Procedure

**The problem exists for a single color only**

**Y N**

Access the Digital Output Test (GP 2). Enter code 53. Press the **Item/Enter** button. Enter code 56. Press the **Item/Enter** button. **The Dispense Clutch energizes.**

**Y N**

Access the DO Stop Test. Enter code 56. Press the **Item/Enter** button. **There is +24 VDC from J 55 pin 1 to frame ground.**

**Y N**

**There is +24 VDC from J 55 pin 2 to frame ground.**

**Y N**

Go to Flag 5. Check for an open circuit. If the wire is OK, replace the MCU PWB (PL 11.2).

Replace the Dispense Clutch (PL 10.1).

Access the Digital Output Test (GP 2). Enter code 56. Press the **Item/Enter** button. **There is less than 1 VDC from J 55 pin 1 to frame ground.**

**Y N**

Go to Flag 4. Check for an open circuit. If the wire is OK, replace the MCU PWB (PL 11.2).

Replace the Dispense Clutch (PL 10.1).

Access the Digital Output Test (GP 2). Enter code 53. Press the **Item/Enter** button. Enter code 21. Press the **Item/Enter** button. **The Developer Clutch energizes.**

**Y N**

Access the DO Stop Test. Enter code 21. Press the **Item/Enter** button. **There is +24 VDC from J 56 pin 1 to frame ground.**

**Y N**

**There is +24 VDC from J 56 pin 2 to frame ground.**

**Y N**

Go to Flag 3. Check for an open circuit. If the wire is OK, replace the MCU PWB (PL 11.2).

Replace the Developer Clutch (PL 10.1).

Access the Digital Output Test (GP 2). Enter code 21. Press the **Item/Enter** button. **There is less than 1 VDC from J 56 pin 1 to frame ground.**

**Y N**

Go to Flag 2. Check for an open circuit. If the wire is OK, replace the MCU PWB (PL 11.2).

**A B C**

**A B C**

Replace the Developer Clutch (PL 10.1).

### WARNING

**HIGH VOLTAGE!**

**Exercise care when making the voltage checks in the following steps.**

Access the Digital Output Test (GP 2). Enter code 0C. Press the **Item/Enter** button. **There is between -450 and -600 VDC from the C terminal on the HVPS to frame ground.**

**Y N**

**There is less than 1 VDC from J 42 pin 4 to frame ground.**

**Y N**

Go to Flag 8 and Flag 10. Check for an open circuit. If the wire is OK, replace the MCU PWB (PL 11.2).

Go to Flag 9. Check for an open circuit. If the wire is OK, replace the HVPS (PL 11.1). If the problem persists, replace the MCU PWB (PL 11.2).

Access the DO Stop Test. Enter code 0C. Press the **Item/Enter** button. Re-access the DO Test. Enter code 0D. Press the **Item/Enter** button. **There is between 600 and 700 VAC from the C terminal on the HVPS to frame ground.**

**Y N**

**There is less than 1 VDC from J 42 pin 3 to frame ground.**

**Y N**

Go to Flag 6. Check for an open circuit. If the wire is OK, replace the MCU PWB (PL 11.2).

Go to Flag 5. Check for an open circuit. If the wire is OK, replace the HVPS (PL 11.1). If the problem persists, replace the MCU PWB (PL 11.2).

Perform the following actions in the sequence shown:

- Go to Flag 11. Check for an open circuit.
- Go to Flag 1. Check for an open circuit.
- Replace the HVPS (PL 11.1).
- Replace the ADC Sensor (PL 5.1)
- Replace the MCU PWB (PL 11.2).

Remove the Developer Housing (PL 6.2) for the affected color. Check for damage to the drive gears, debris, or clogs. Ensure that the bias contact is free from damage or contamination, Clean, repair, or replace as required.

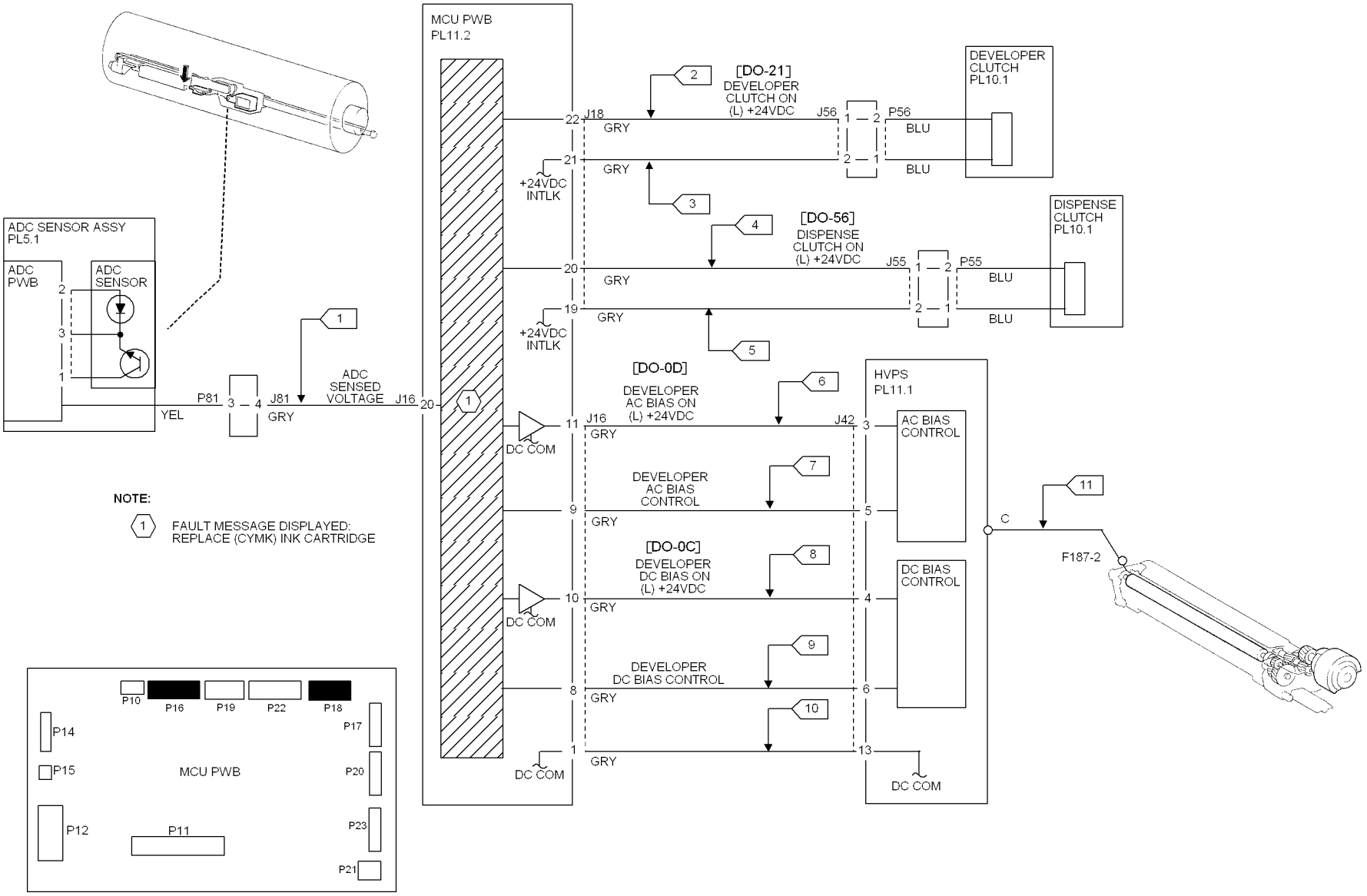



**Figure 1 009-701 RAP Circuit Diagram**

# 009-702 Waste Container Full RAP

Control Logic detects that the Waste Container is full.

## Initial Actions

Check the Waste Container. Replace if required. If the message is displayed with an empty or partially full Waste Container, or if the Waste Container is full but the message is not displayed, continue with this RAP.

## Procedure

Access the Digital Input Test (GP 2). Enter code 51. Press the **Item/Enter** button. **The display is 0.**

**Y N**

Disconnect J 116. **There is +5 VDC from J 116 pin 4 to J 116 pin 6.**

**Y N**

Go to Flag 4. Check for an open circuit or a short circuit to ground. If the wires are OK, replace the MCU PWB (PL 11.2).

**There is +5 VDC from J 116 pin 5 to J 116 pin 6.**

**Y N**

Go to Flag 3. Check for an open circuit or a short circuit to ground. If the wire is OK, replace the MCU PWB (PL 11.2).

Remove the Locating Rail (REP 9.5). Check the harness of the Waste Toner Sensor (Flag 1 and Flag 2). If the wires are OK, replace the Waste Toner Sensor (PL 5.1).

Remove the Waste Container. Block the Waste Toner Sensor. Access the DI Test. Enter code 51. Press the **Item/Enter** button. **The display is 1.**

**Y N**

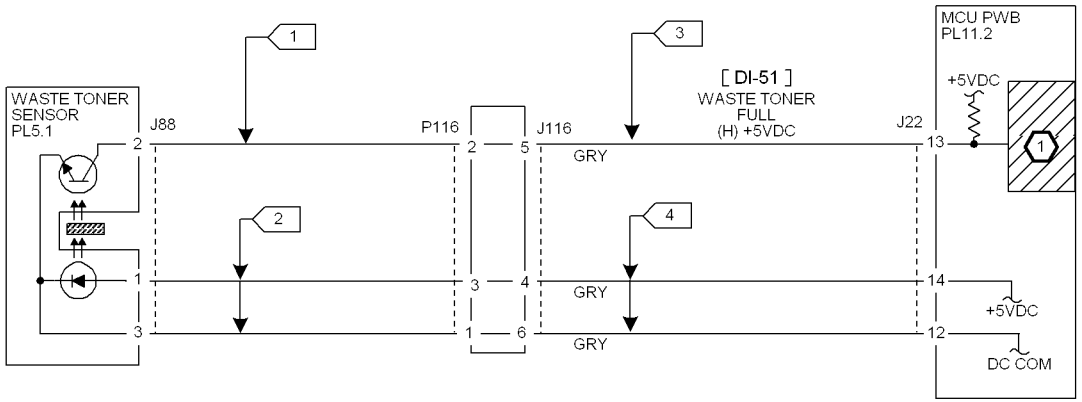
Disconnect P/J 116. Access the DI Test. Enter code 51. Press the **Item/Enter** button. **The display is 1.**

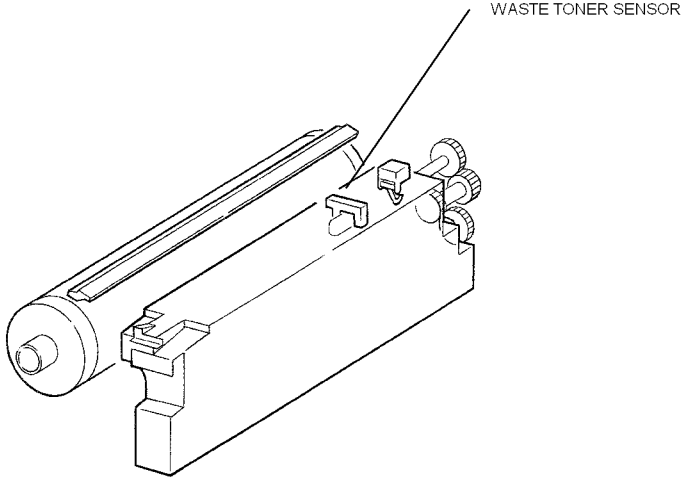
**Y N**

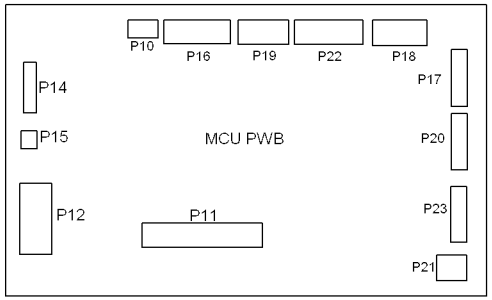
Go to Flag 3. Check for a short circuit. If the wire is OK, replace the MCU PWB (PL 11.2).

Remove the Locating Rail (REP 9.5). Check the harness of the Waste Toner Sensor (Flag 1 and Flag 2). If the wires are OK, replace the Toner Box Sensor (PL 5.1).

The problem appears to be intermittent. Go to Figure 1. Check for loose or damaged connections, or pinched wires. If the wires are OK, replace the Waste Toner Sensor (PL 5.1). If the problem persists, replace the MCU PWB (PL 11.2).




T-709009-A-WOL

**Figure 1 009-702 RAP Circuit Diagram**

# 009-703 Waste Container Detached RAP

Control Logic does not detect the presence of the Waste Container.

## Initial Actions

Check that the Waste Container is present and is installed correctly.

## Procedure

Access the Digital Input Test (GP 2). Enter code 52. Press the **Item/Enter** button. **The display is 0.**

**Y N**

Disconnect P/J 116. **There is +5 VDC from J 116 pin 3 to J 116 pin 2.**

**Y N**

Go to Flag 4. Check for an open circuit or a short circuit to ground. If the wires are OK, replace the MCU PWB (PL 11.2).

**There is +5 VDC from J 116 pin 1 to J 116 pin 2.**

**Y N**

Go to Flag 3. Check for an open circuit or a short circuit to ground. If the wire is OK, replace the MCU PWB (PL 11.2).

Remove the Locating Rail (REP 9.5). Check the harness of the Toner Box Sensor (Flag 1 and Flag 2). If the wires are OK, replace the Toner Box Sensor (PL 5.1).

Remove the Waste Container. Access the DI Test. Enter code 52. Press the **Item/Enter** button. **The display is 1.**

**Y N**

Disconnect P/J 116. Access the DI Test. Enter code 52. Press the **Item/Enter** button. **The display is 1.**

**Y N**

Go to Flag 3. Check for a short circuit. If the wire is OK, replace the MCU PWB (PL 11.2).

Remove the Locating Rail (REP 9.5). Check the harness of the Toner Box Sensor (Flag 1 and Flag 2). If the wires are OK, replace the Toner Box Sensor (PL 5.1).

The problem appears to be intermittent. Go to Figure 1. Check for loose or damaged connections, or pinched wires. If the wires are OK, replace the Toner Box Sensor (PL 5.1). If the problem persists, replace the MCU PWB (PL 11.2).

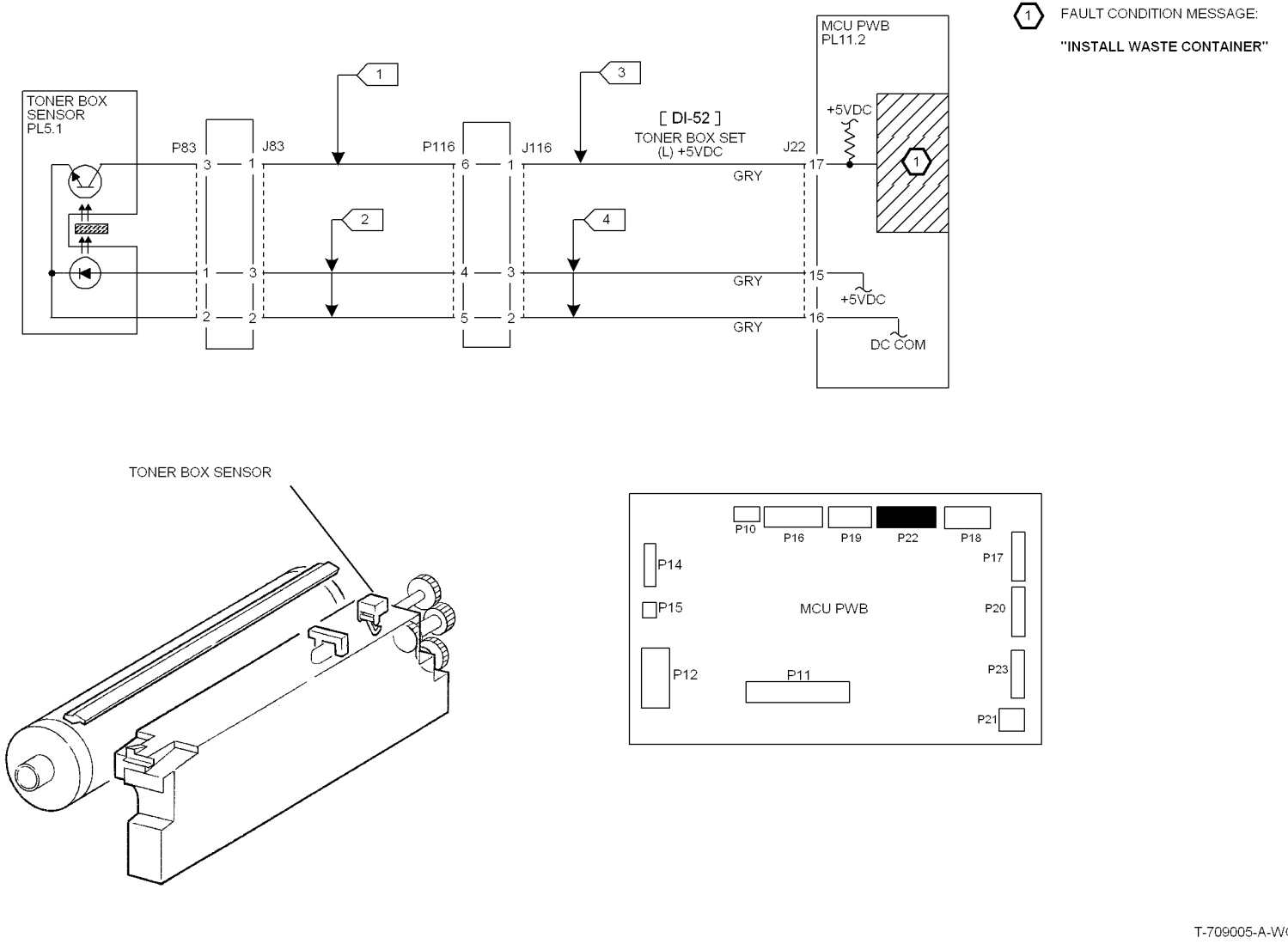



**Figure 1 009-703 RAP Circuit Diagram**

# 009-704 Belt Cleaner RAP

## Initial Actions

Open the Fuser Assembly. Check for wear or damage to the Cleaner Cam Followers (PL 8.6).

Ensure that the Belt Cleaner Assembly is installed correctly and freely moves up and down. Check for obvious damage to the mylar shield or cleaning blade.

## Procedure

Reinstall the Belt Cleaner Assembly and Fuser Assembly. Access the Digital Output Test (GP 2). Enter code 66. Listen for an audible click as the **Item/Enter** button is pressed. **The Cleaner Cam Solenoid energizes.**

**Y N**

Remove the Controller Chassis (REP 1.11). Disconnect J19 from the MCU PWB. **There is between 160 and 240 ohms from pin 13 to pin 12 on J19.**

**Y N**

**There is between 160 and 240 ohms from pin B2 to pin B9 on J71.**

**Y N**

Go to Flag 1 and Flag 2. Check for an open circuit. If the wires are OK, replace the Cleaner Cam Solenoid (PL 8.7).

Go to Flag 3 and Flag 4. Check for an open circuit.

Replace the Cleaner Cam Solenoid (PL 8.7). If the problem continues, replace the MCU PWB (PL 11.2).

Remove the Fuser Assembly. Rotate the upper-most gear on the Input Bracket Assembly (PL 8.7) clockwise. **Both Cleaner Cam Followers raise and lower as the gear is turned.**

**Y N**

Check the Input Bracket Assembly and the Cleaner Cam for binding or damage. Clean, repair or replace as required (PL 8.1, PL 8.6, PL 8.7).

Rotate the gear counterclockwise. **Both Cleaner Cam Followers lower and stay in the down position as the gear is turned.**

**Y N**

Check the Input Bracket Assembly and the Cleaner Cam for binding or damage. Clean, repair or replace as required (PL 8.1, PL 8.6, PL 8.7).

Pull in on the actuator of the Cleaner Cam Solenoid as you rotate the gear counterclockwise. **Both Cleaner Cam Followers raise and lower as the gear is turned.**

**Y N**

Check the Input Bracket Assembly and the Cleaner Cam for binding or damage. Clean, repair or replace as required (PL 8.1, PL 8.6, PL 8.7).

The Belt Cleaner appears to be functioning correctly. Return to the RAP that sent you here.

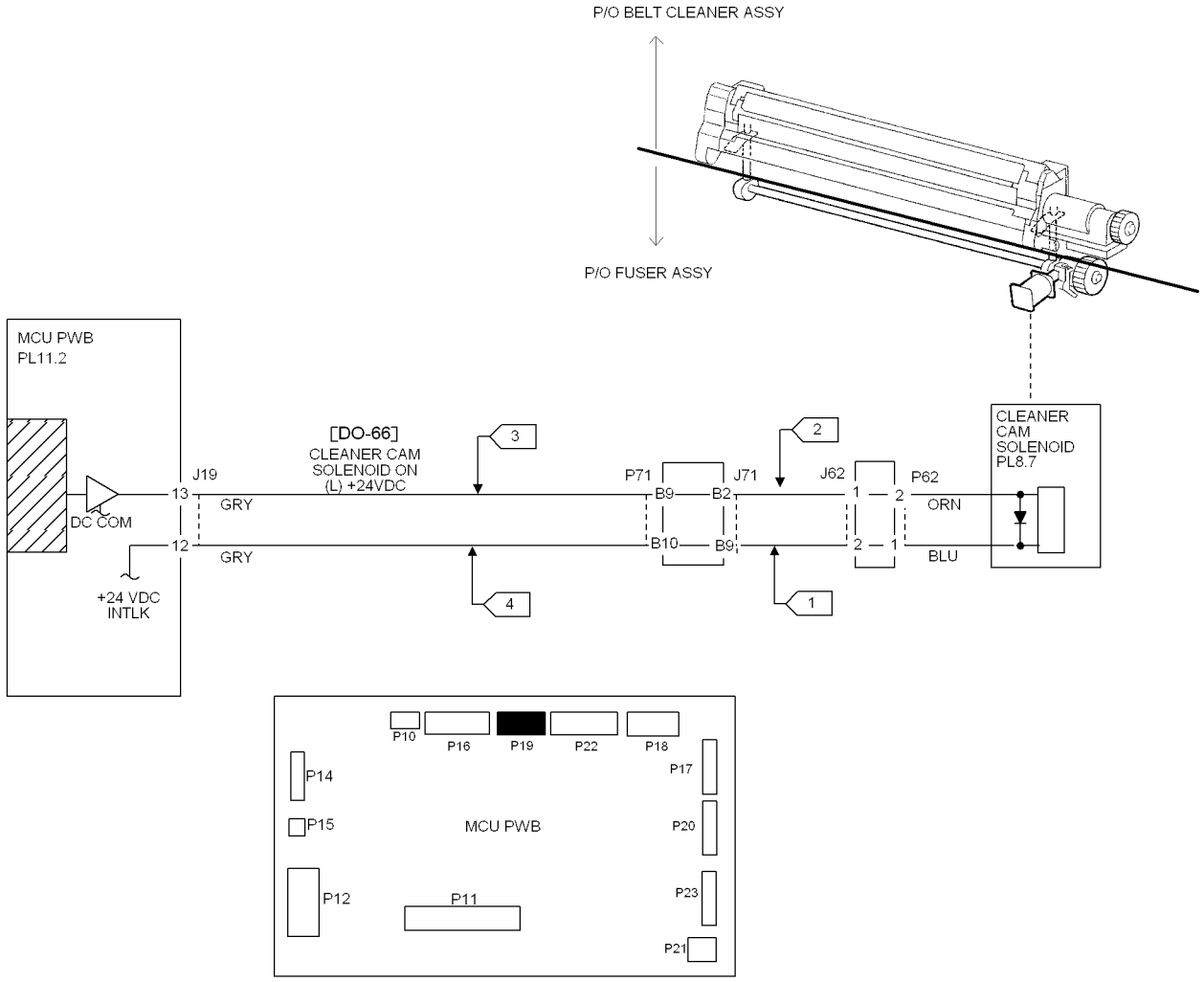



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**Figure 1 009-704 RAP Circuit Diagram**

# 010-317 Temperature Sensor Circuit Error RAP

A disconnection / open circuit has been detected in the Temperature Sensor circuit.

## Initial Actions

Inspect the Fuser area for debris and other signs of wear, breakage or damage. Look for loose or damaged connections or damaged wires.

## Procedure

If the Fuser area is clean and without apparent damage, excessive wear or damaged connections or wires, go to 010-701 Faulty Temperature Sensor RAP to troubleshoot the problem.

# 010-353/356/357 Fuser Low/Under Temperature Condition RAP

- 010-353 - A Fuser low temperature error has been declared. One of the following conditions exist:
  - an abnormally low fuser temperature has been detected by the Temperature Sensor.
  - the Fuser On signal remains on too long - normal operating temperature cannot be maintained.
- 010-356 - A Fuser Lamp error has been declared because both Fuser Lamps have been turned on for more than 60 consecutive seconds in an effort to maintain a Ready Condition.
- 010-357 - The Temperature Sensor detected that the Fuser did not reach operating temperature within a specified period of time. A Fuser Warm-Up Timeout error has been declared.

## Initial Actions

Inspect the Fuser area (especially around the Temperature Sensor) for any damage, foreign material, debris or other signs of wear. Perform any necessary cleaning or maintenance in the Fuser area. If the problem persists, continue with this RAP.

***NOTE:*** *Before beginning the Procedure below, remove the Inverter Upper Assembly REP 8.33 and the Fuser Tray Handle (PL 8.4).*

## Procedure

Switch on power to the copier/printer. **A glow can be seen coming from the area of the Heat Roll and Pressure Roll Heat Lamps when power is applied (viewed from the left side of the copier/printer, just above the green Fuser Nip Handle).**

**Y N**

Remove the Rear Cover REP 14.6. Switch off power to the Copier/Printer and disconnect the power cord. **Continuity can be measured between J 34-1 and J34-2 on the Low Voltage Power Supply (LVPS).**

**Y N**

Remove the Fuser Assembly REP 10.1. **Continuity can be measured between P 79-1 and P79-2 on the Main Fuser Assembly.**

**Y N**

Remove the Upper Plate REP 10.4. Check for continuity directly across the Pressure Roll Heat Lamp and the Heat Roll Heat Lamp. If continuity is NOT measured, replace the Heat Lamps as required (PL 8.3). Also check for continuity directly across the Thermal Fuse and the Thermostat. If continuity is NOT measured across either component, replace the Upper Plate (PL 8.2).

Go to Flag 1 and Flag 2. Check for an open circuit. **The wiring is OK.**

**Y N**

Repair or replace the Fuser Connector Harness or the Main Harness (PL 11.1), or the Fuser Harness (PL 8.5) as required.

Go to Flag 3 and Flag 4. Check for an open circuit. Repair or replace the Fuser Connector Harness or the Main Harness (PL 11.1), or the Fuser Harness (PL 8.5) as required.

Reconnect the power cord and switch on power to the Copier/Printer.

**A**

***NOTE:*** *Line Voltage = 110VAC for a 60 Hz System. Line Voltage = 220VAC for a 50 Hz System.*

**Line Voltage is measured between J 34-1 and J34-2 on the LVPS.**

**Y N**

Access the Digital Output (DO) test from the Control Panel. Enter code [47]. Press the Item/Enter button. **The Display is 0.**

**Y N**

Check the wire between J 32-2 on the LVPS and J 21-3 on the MCU PWB for an open circuit or a short circuit to ground. Repair or replace the Fuser Connector Harness or the Main Harness (PL 11.1) as required. If the wiring is OK, replace the MCU PWB (PL 11.2).

Replace the Low Voltage Power Supply (PL 11.1).

The problem may be intermittent. Go to Figure 1. Check for loose or damaged connections or damaged wires. If the wiring is OK, go to 010-701 Faulty Temperature Sensor RAP to troubleshoot the problem. If the problem persists, replace the Main Fuser or the Fuser Tray (PL 8.1).

The problem may be intermittent. Go to 010-701 Faulty Temperature Sensor RAP to troubleshoot the problem. If the problem persists, replace the Main Fuser or the Fuser Tray (PL 8.1).

**A**

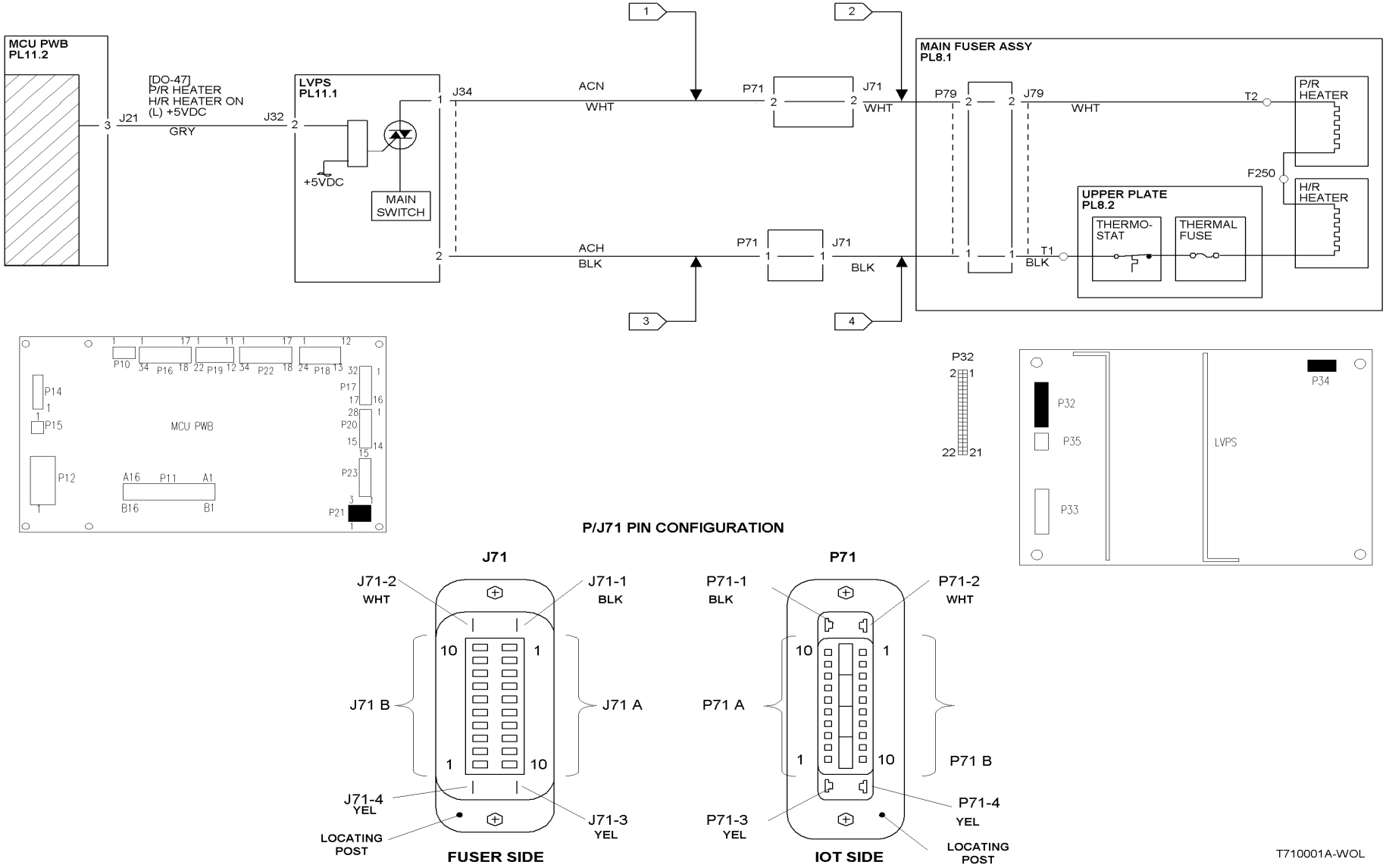



**Figure 1 010-353 RAP Circuit Diagram**

# 010-354 Fuser Temperature Not Detected RAP

The Fuser Temperature cannot be correctly sensed by the Temperature Sensor. A Fuser Temperature error was declared.

## Initial Actions

Inspect the Fuser area for debris and other signs of wear, breakage or excessive heat damage.Perform any necessary cleaning or maintenance in the Fuser area. If the problem persists, continue with this RAP.

## Procedure

Ensure that you have performed the Initial Actions above.

If the Fuser area is clean and without apparent damage or excessive wear, proceed by pulling out Area 5. **A resistance of approximately 200k ohms is measured between J71 pin B4 and J71 pin B6 when the Temperature Sensor is at room temperature.**

**Y N**

Disconnect P/J72. **A resistance of approximately 200k ohms is measured between P 72 pin 2 and pin 4 when the Temperature Sensor is at approximately room temperature.**

**Y N**

Replace the Temperature Sensor (PL 8.2).

Reconnect P/J 72. **A resistance of approximately 200k ohms is measured between J71-B4 and B6 when the Temperature Sensor is at approximately room temperature.**

**Y N**

Go to Flag 1. Check the wiring for an open circuit or a short circuit to ground. Repair or replace the Fuser Harness (PL 8.5) as required. If the problem persists, replace the Temperature Sensor (PL 8.2). If the problem still persists, replace the MCU PWB (PL 11.2).

Go to Flag 2. Check for an open circuit or a short circuit to ground. Repair or replace the Main Harness (PL 11.1) as required. If the wiring is OK, replace the MCU PWB (PL 11.2).

The problem may be intermittent. Go to Figure 1. Check for loose or damaged connections or damaged wires. Repair or replace the Fuser Harness (PL 8.5) or the Main Harness (PL 11.1) as required. If the wiring is OK and the problem persists, replace the Temperature Sensor (PL 8.2). If the problem still persists, replace the MCU PWB (PL 11.2).

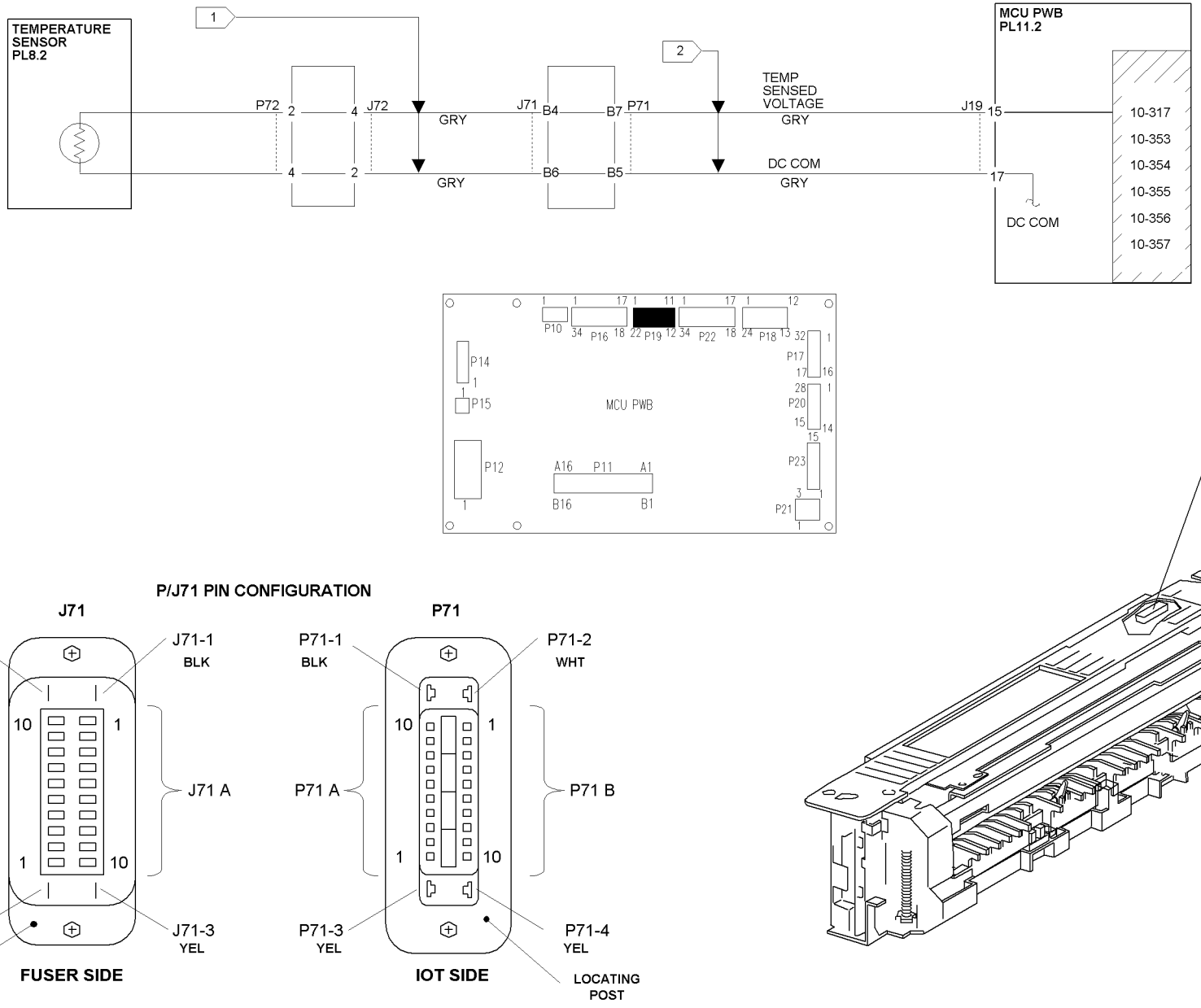



**Figure 1 010-354 RAP Circuit Diagram**

# 010-355 Fuser Overheat Error RAP

The sensed Fuser Temperature has exceeded the maximum allowable temperature. A Fuser Overheat error was declared.

## Initial Actions

Inspect the Fuser area (especially around the Temperature Sensor) for any damage, foreign material, debris or other signs of wear, breakage or excessive heat damage. Perform any necessary cleaning or maintenance in the Fuser area. If the problem persists, continue with this RAP.

***NOTE:*** *The Thermal Fuse and the Thermostat are physically located on the Upper Plate (PL 8.2).*

## Procedure

Remove the Rear Cover REP 14.6. Switch off the Copier/Printer and disconnect the power cord. **Continuity is measured between J 34-1 and J34-2 on the Low Voltage Power Supply.**

**Y N**

**Continuity is measured between J71-1 and J71-2.**

**Y N**

**Continuity is measured between J 79-1 and J79-2.**

**Y N**

Remove the Upper Plate REP 10.4. Check for continuity directly across the Pressure Roll Heat Lamp and the Heat Roll Heat Lamp. If continuity is NOT measured, replace the Heat Lamps as required (PL 8.3). Also check for continuity directly across the Thermal Fuse and the Thermostat. If continuity is NOT measured across either component, replace the Upper Plate (PL 8.2).

Go to Flag 1. Check for an open circuit. Repair or replace the Fuser Harness (PL 8.5) as required.

Go to Flag 2. Check for an open circuit. Repair or replace the Fuser Connector Harness or the Main Harness (PL 11.1) as required.

Disconnect the connector from J 32 on the Low Voltage Power Supply (LVPS). **An open circuit (NO continuity) is measured between J32-2 of the disconnected connector and GND.**

**Y N**

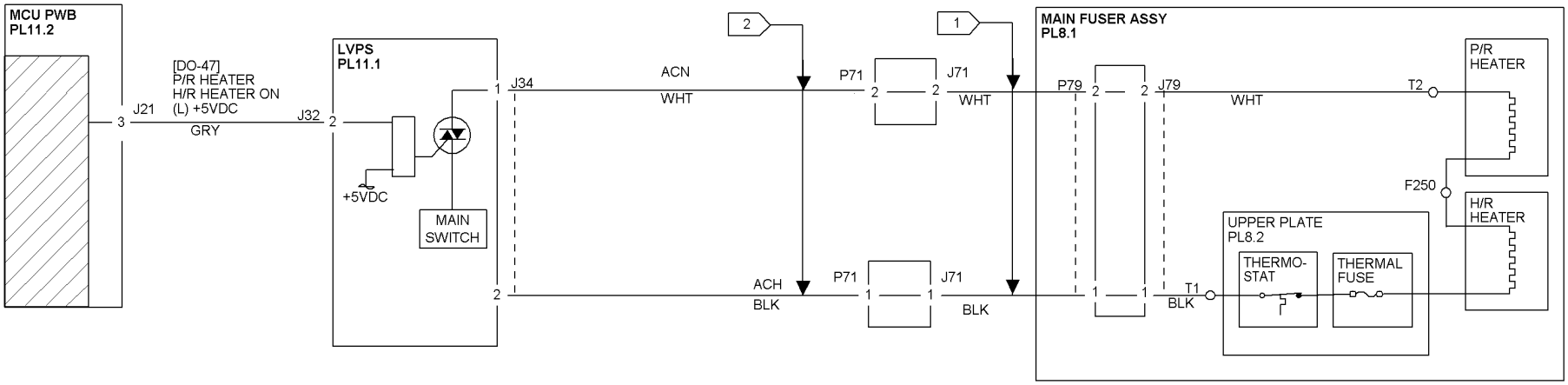
A short circuit is causing the 'Heater On' signal to be constantly available. Repair or replace the Main Harness (PL 11.1) as required. If the problem persists, replace the MCU PWB (PL 11.2).

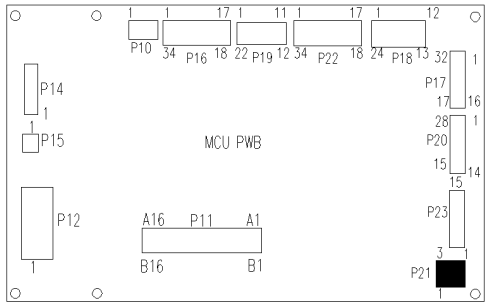
Reconnect J 32 to the LVPS. Access the Digital Output (DO) test from the Control Panel. Enter code [47]. Measure the voltage between J 32-2 of the LVPS and GND. Press the Item/Enter button. **The measured voltage is approximately +4.5VDC and momentarily goes to approximately +3.2VDC, then recovers, when the Item/Enter button is pressed.**

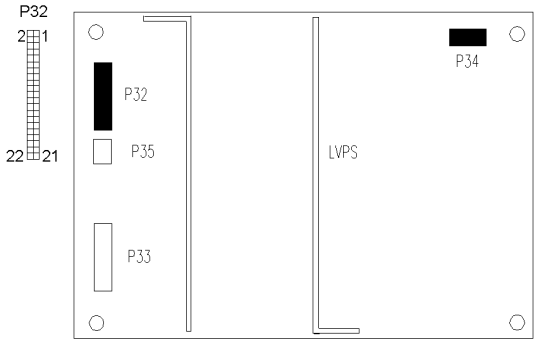
**Y N**

Replace the MCU PWB (PL 11.2).

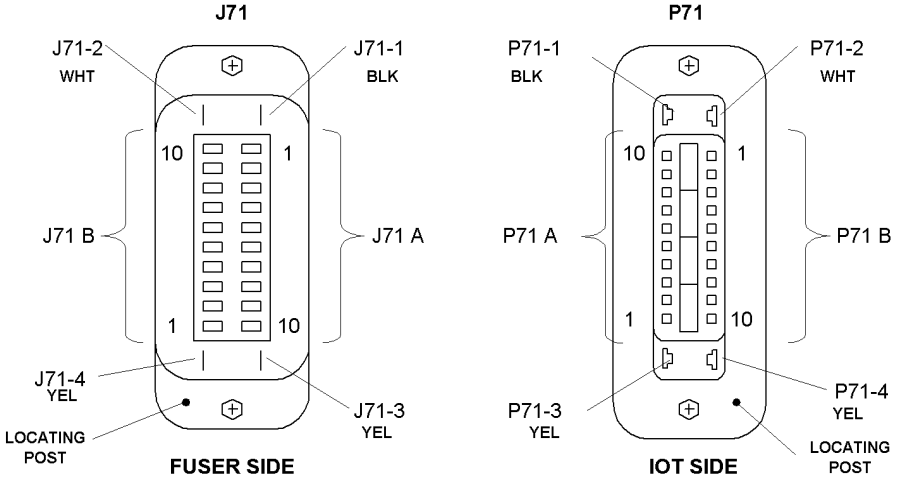
Go to 010-701 Faulty Temperature Sensor RAP to troubleshoot the problem.




**P/J71 PIN CONFIGURATION**




T710002A-WOL

**Figure 1 010-355 RAP Circuit Diagram**

# 010-358 Fuser Fan Error RAP

The Fuser Fan has failed to operate correctly. A Fuser Fan rotation error has been declared.

## Initial Actions

Ensure that there are no obstructions or physical conditions that might inhibit normal fan operation.

## Procedure

Access the Digital Output (DO) test from the Control Panel. Enter code [63]. Press the Item/Enter button. **The Fuser Fan rotates.**

**Y N**

**+24VDC is measured between P 111-4 and frame ground (DC Common).**

**Y N**

Go to Flag 1 and Flag 4. Check for an open circuit. Repair or replace the Main Harness (PL 11.1) as required. If the wiring is OK, replace the MCU PWB (PL 11.2).

Go to Flag 1. Check for an open circuit. Repair or replace the Main Harness (PL 11.1) as required. If the wiring is OK, replace the Fuser Fan (PL 9.2).

***NOTE:*** *By executing [DO-63] and [DO-65] at the same time, the Fuser Fan should rotate at a higher speed.*

From the Control Panel, enter code [65]. Press the Item/Enter button. **The speed of the Fuser Fan increases.**

**Y N**

**Less than +1.0VDC is measured between P 111-3 and frame ground (DC Common).**

**Y N**

Go to Flag 2. Check for an open circuit. Repair or replace the Main Harness (PL 11.1) as required. If the wiring is OK, replace the MCU PWB (PL 11.2).

Replace the Fuser Fan (PL 9.2).

**The Fault Code is still present or re-occurs.**

**Y N**

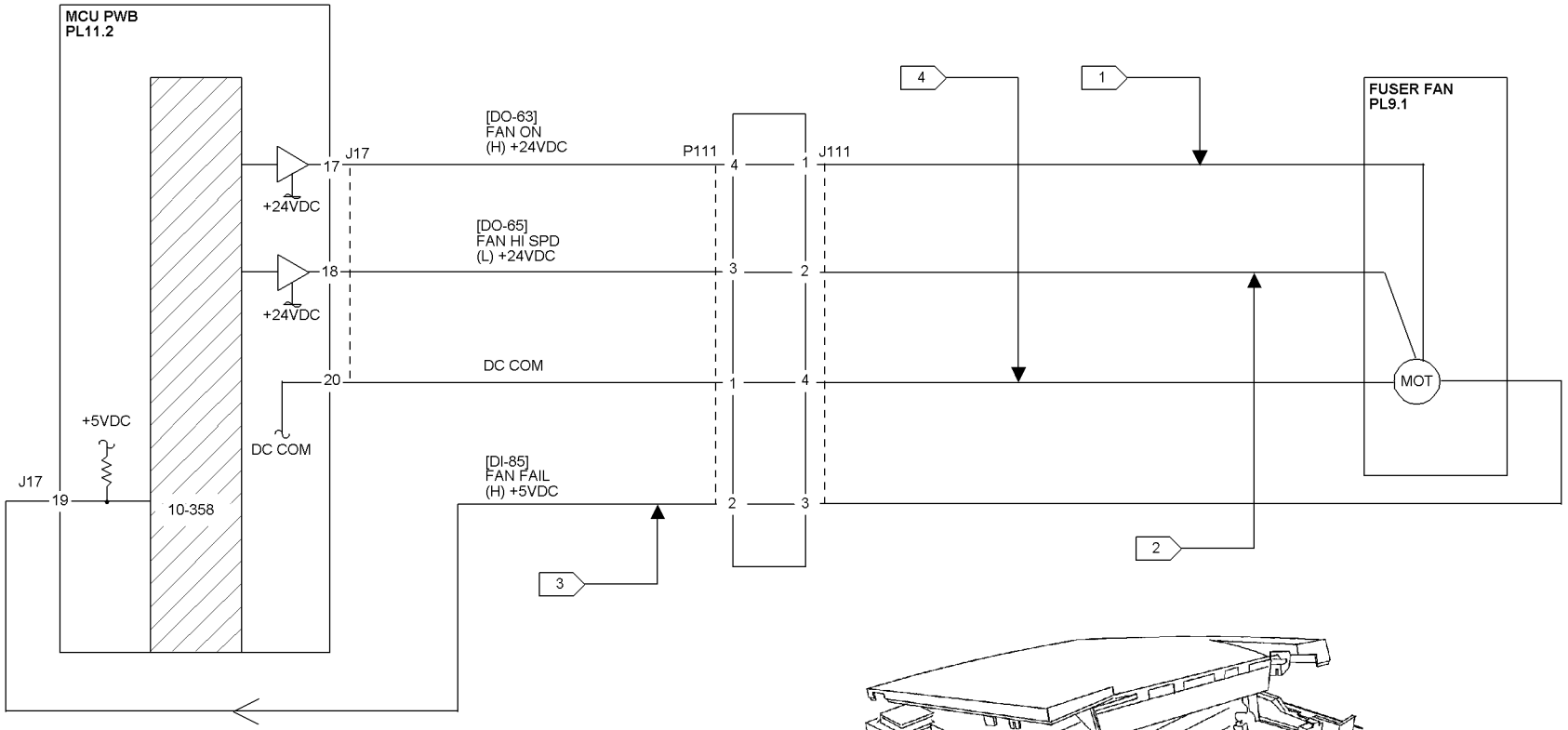
The problem may be intermittent. Go to Figure 1. Check for loose or damaged connections or damaged wires. Also check for continuity. If the wiring is OK, replace the Fuser Fan (PL 9.2). If the problem persists, replace the MCU PWB (PL 11.2).

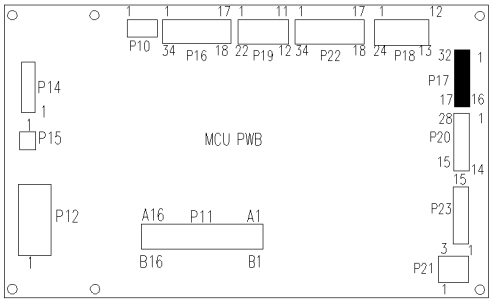
**+5VDC is measured between P 111-2 and frame ground (DC Common).**

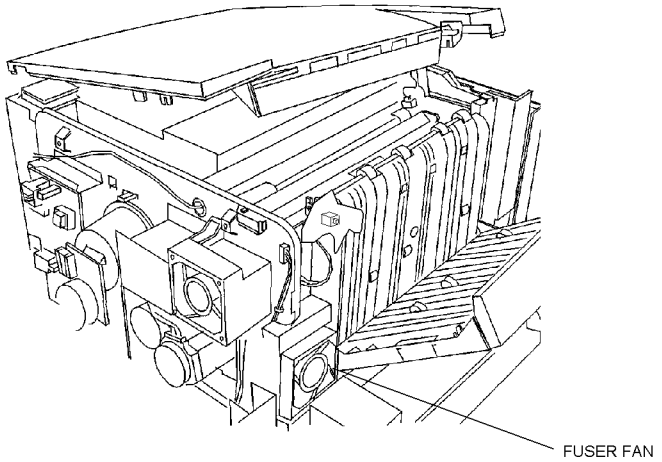
**Y N**

Go to Flag 3. Check for an open circuit. Repair or replace the Main Harness (PL 11.1) as required. If the wiring is OK, replace the MCU PWB (PL 11.2).

Replace the Fuser Fan (PL 9.2).




T710005A-WOL

**Figure 1 010-358 RAP Circuit Diagram**

# 010-359 Exit Chute Fan Failure RAP

The Exit Chute Fan has failed to operate correctly. An Exit Chute Fan rotation error has been declared.

## Initial Actions

Ensure that there are no obstructions or physical conditions that might inhibit normal fan operation.

## Procedure

Access the Digital Output (DO) test from the Control Panel. Enter code [85]. Press the Item/Enter button. **The Exit Chute Fan rotates.**

**Y N**

**+24VDC is measured between P 161-3 and frame ground (DC Common).**

**Y N**

Go to Flag 1. Check for an open circuit or a short circuit to ground. Repair or replace the Main Harness (PL 11.1) as required. If the wiring is OK, replace the MCU PWB (PL 11.2).

Go to Flag 3. Check for an open circuit. Repair or replace the Main Harness (PL 11.1) as required. If the wiring is OK, replace the Exit Chute Fan (PL 9.2).

**The Fault Code is still present or re-occurs.**

**Y N**

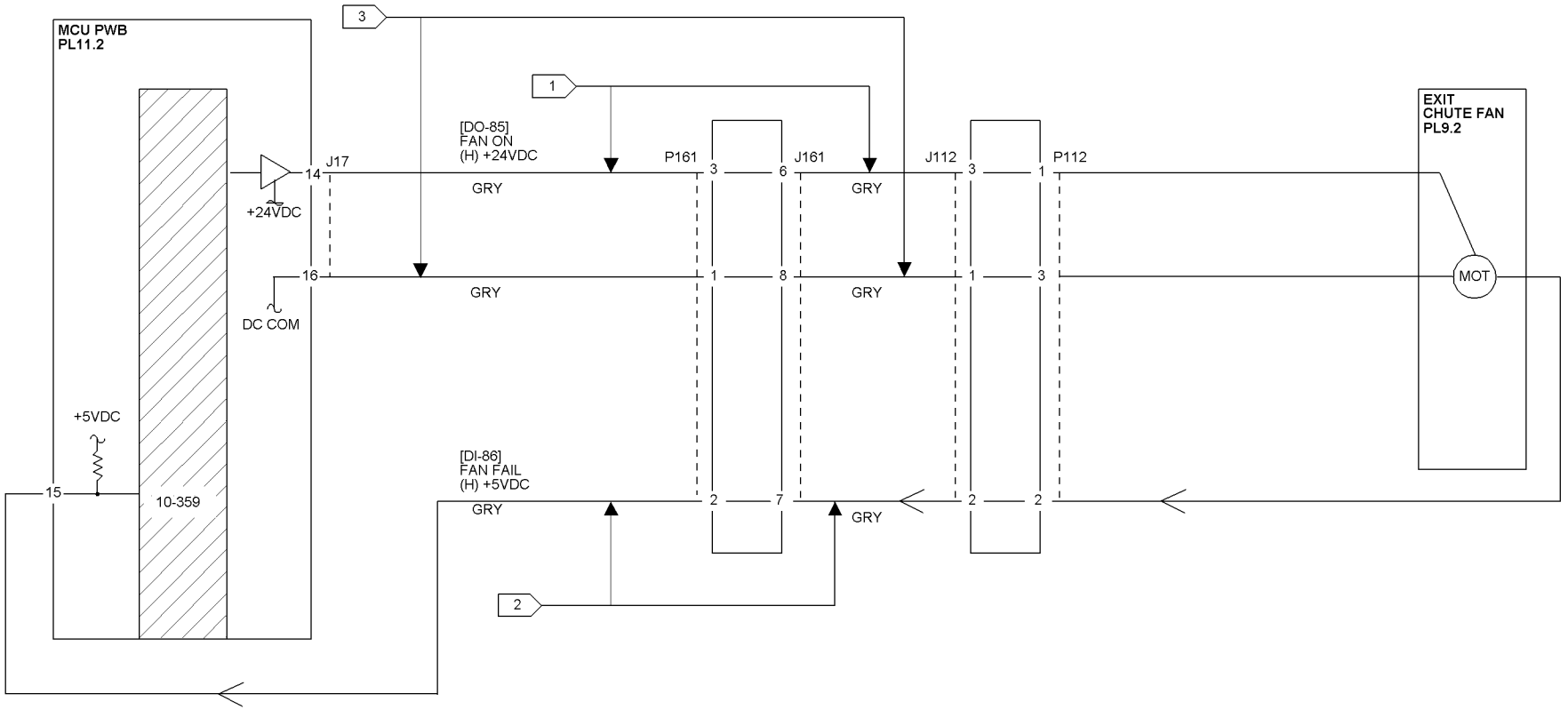
The problem may be intermittent. Go to Figure 1. Check for loose or damaged connections or damaged wires. Also check for continuity. If the wiring is OK, replace the Exit Chute Fan (PL 9.2). If the problem persists, replace the MCU PWB (PL 11.2).

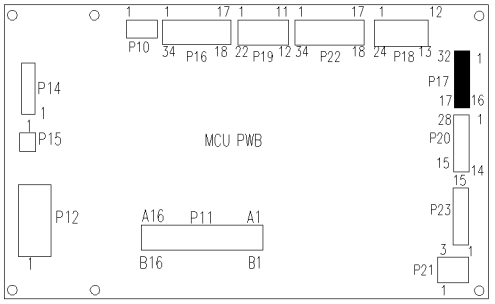
**+5VDC is measured between P 161-2 and frame ground (DC Common).**

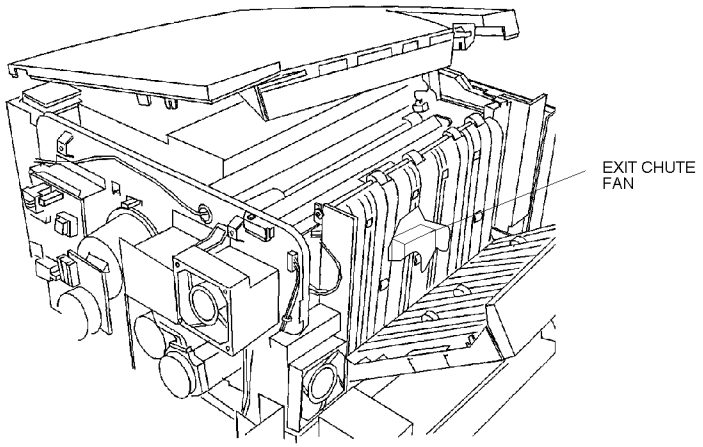
**Y N**

Go to Flag 2. Check for an open circuit. Repair or replace the Main Harness (PL 11.1) as required. If the wiring is OK, replace the MCU PWB (PL 11.2).

Replace the Exit Chute Fan (PL 9.2).




T710006A-WOL

**Figure 1 010-359 RAP Circuit Diagram**

# 010-700 Area 5 Jam RAP

One of the following conditions exists or was detected:

- The Fuser Exit Sensor does not detect paper within a specified period of time after the Reg Clutch is energized.
- The trail edge of a sheet was not detected by the Fuser Exit Sensor within a specified period of time after the lead edge was detected.
- The Fuser Exit Sensor does not detect a sheet within a specified period of time after the Fuser Entrance Sensor detects a sheet.
- (Static Jam) A sheet remains over the Fuser Entrance Sensor or the Fuser Exit Sensor.
- A problem in the Sorter has triggered an Area 5 Fault Message.

## Initial Actions

- Check the actuators for the Fuser Entrance Sensor and for both Fuser Exit Sensors. Ensure that the actuators move freely and are not damaged.
- Ensure that Area 5 is correctly and securely closed.
- If no paper is present in the fuser, but the message “Clear Jam in Area 5” is displayed, go to 010-702 Faulty Entrance Sensor RAP to troubleshoot the problem.
- If Sorting has been selected for the copy/print job, and there is a jammed sheet that has exited the Fuser and is entering the Sorter, go to 011-703 Sorter Transport Jam RAP to troubleshoot the problem.

## Procedure

1. Check the paper in the paper trays for excessive curl or other damage. Load fresh paper as required.
2. Run a test print from the IOT Control Panel.
    - If the jammed paper is entering Area 4, but the message “Clear Jam in Area 5” is displayed, inspect the drive gears on the Exit Transport Assembly (Area 4), and replace as required (PL 9.2). If the drives are OK but the problem continues, go to the Faulty Fuser Exit Sensor RAP, 010-703.
    - If the copy/print exits to the lower exit tray (face up), or to the Sorter, but the message “Clear Jam in Area 4” is displayed, go to the Faulty Exchange Solenoid RAP, 010-705.
    - Examine the jammed copy/print.
        - If there is a streak/line/blur perpendicular to the process direction that occurs 95+/- 5 mm from the lead edge of the paper, inspect the drive gears to the fuser area. Replace as required (PL 8.3).
        - If the output pages from the copier/printer are wrinkled or unevenly fused (top-to-bottom), check/adjust ADJ 10.1 Fuser Nip. If the problem persists, replace the Fuser Assembly (PL 8.1).
3. Inspect the Heat Roll and the Pressure Roll for damage or excessive wear. Replace as required (PL 8.3).

# 010-701 Faulty Temperature Sensor RAP

The Temperature Sensor has failed to read the Fuser Temperature correctly. A Temperature Sensor error has been declared.

## Initial Actions

Inspect the Fuser area for debris and other signs of wear, breakage or excessive heat damage.

## Procedure

Pull out Area 5. **A resistance of approximately 200k ohms is measured between J71 pin B4 and J71 pin B6 when the Temperature Sensor is at room temperature.**

**Y N**

Disconnect P/J 72. **A resistance of approximately 200k ohms is measured between P72 pin 2 and pin 4 when the Temperature Sensor is at approximately room temperature.**

**Y N**

Replace the Temperature Sensor (PL 8.2).

Reconnect P/J 72. **A resistance of approximately 200k ohms is measured between J71-B4 and B6 when the Temperature Sensor is at approximately room temperature.**

**Y N**

Go to Flag 1. Check the wiring for an open circuit or a short circuit to ground. Repair or replace the Fuser Harness (PL 8.5) as required. If the problem persists, replace the Temperature Sensor (PL 8.2). If the problem still persists, replace the MCU PWB (PL 11.2).

Go to Flag 2. Check for an open circuit or a short circuit to ground. Repair or replace the Main Harness (PL 11.1) as required. If the wiring is OK, replace the MCU PWB (PL 11.2).

The problem may be intermittent. Go to Figure 1. Check for loose or damaged connections or damaged wires. Repair or replace the Fuser Harness (PL 8.5) or the Main Harness (PL 11.1) as required. If the wiring is OK and the problem persists, replace the Temperature Sensor (PL 8.2). If the problem still persists, replace the MCU PWB (PL 11.2).

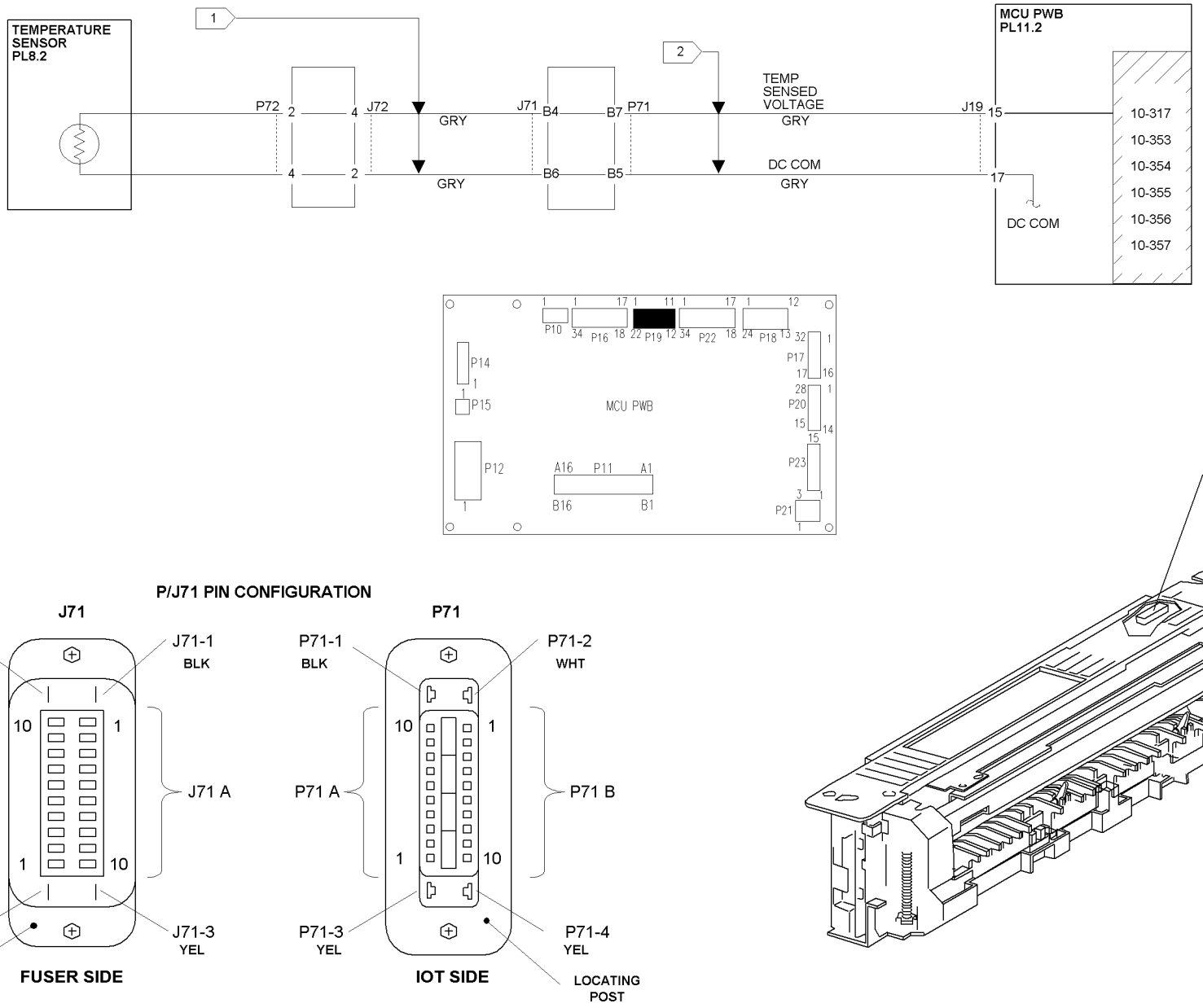



**Figure 1 010-701 RAP Circuit Diagram**

# 010-702 Faulty Entrance Sensor RAP

The Fuser Entrance Sensor did not detect paper within a specified period of time after a sheet was available at the sensor. An Entrance Sensor error was declared.

## Initial Actions

Check the actuator for the Fuser Entrance Sensor. Ensure that it moves freely and is not damaged.

## Procedure

Access the Digital Input (DI) test from the Control Panel. Enter code [24]. Press the Item/Enter button. **The Display is 1.**

**Y N**

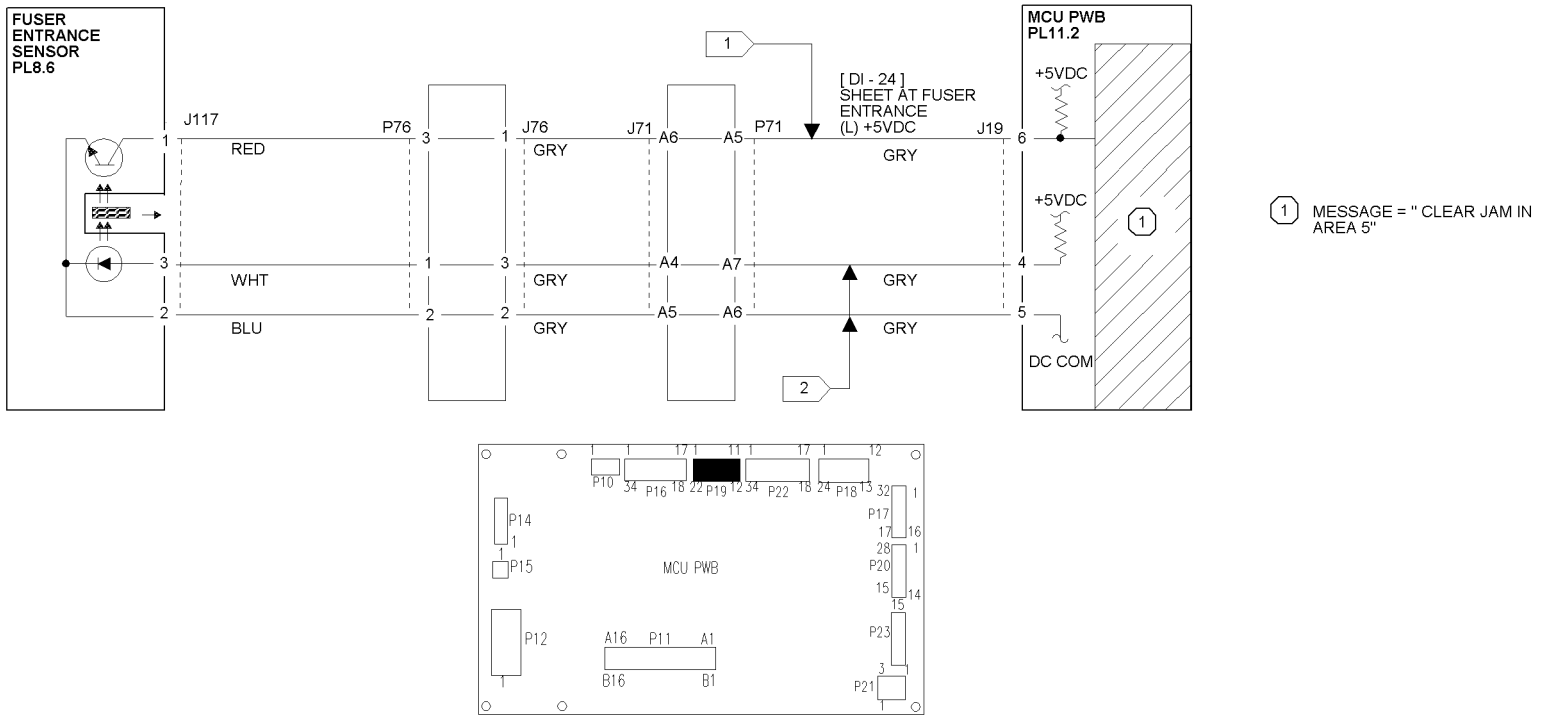
Go to Flag 1. Check for a short circuit to ground. Repair or replace the Fuser Harness (PL 8.5) as required. If the wiring is OK, replace the Fuser Entrance Sensor (PL 8.6). If the problem persists, replace the MCU PWB (PL 11.2).

Open Area 5. Tape down the actuator of the Fuser Entrance Sensor. Close Area 5. Access the Digital Input (DI) test from the Control Panel. Enter code [24]. Press the Item/Enter button. **The Display is 0.**

**Y N**

Go to Flag 2. Check for an open circuit. Repair or replace the Fuser Harness (PL 8.5) as required. If the wiring is OK, replace the Fuser Entrance Sensor (PL 8.6). If the problem persists, replace the MCU PWB (PL 11.2).

The problem may be intermittent. Go to Figure 1. Check for loose or damaged connections or damaged wires. If the wiring is OK, replace the Fuser Entrance Sensor (PL 8.6). If the problem persists, replace the MCU PWB (PL 11.2).



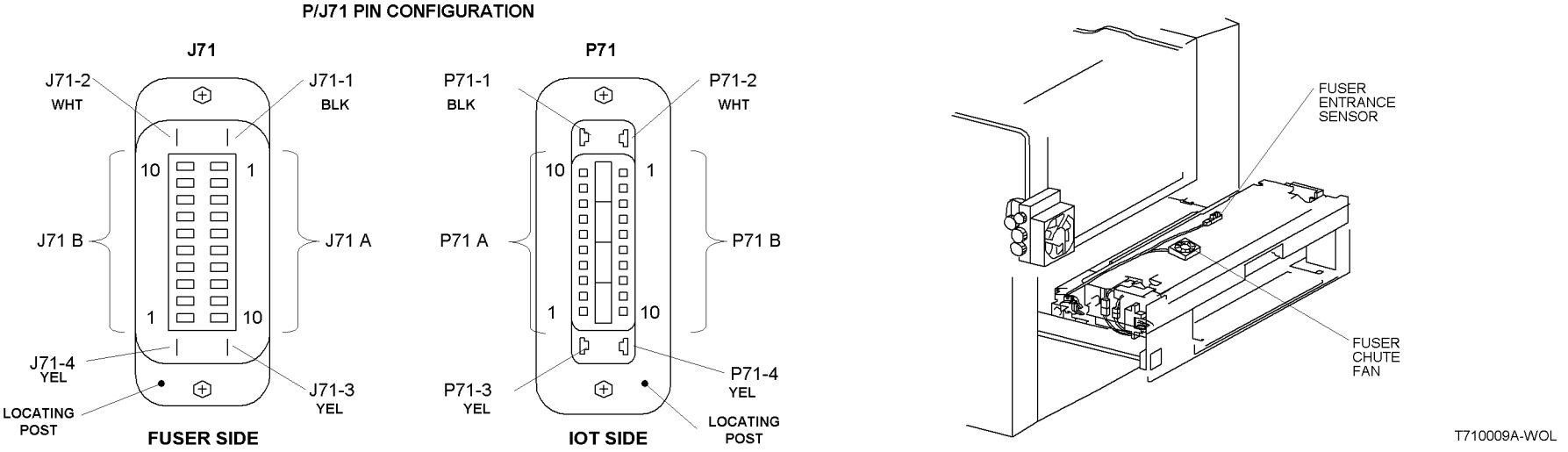




**Figure 1 010-702 RAP Circuit Diagram**

# 010-703 Faulty Fuser Exit Sensor RAP

One of the following conditions exists or was detected:

- The Fuser Exit Sensor did not detect paper within a specified period of time after the Regi Clutch was energized.
- The Fuser Exit Sensor did not detect the absence of paper within a specified period of time after it detected the presence of paper (sensor actuated too long).

## Initial Actions

Check the actuators for both Fuser Exit Sensors. Ensure that they move freely and are not damaged.

## Procedure

Access the Digital Input (DI) test from the Control Panel. Enter code [25]. Press the Item/Enter button. **The Display is 1.**

**Y N**

Go to Flag 2 and Flag 8. Check for a short circuit to ground. Repair or replace the Main Harness (PL 11.1), the Fuser Harness (PL 8.5), or the Temperature Sensor (PL 8.2) (which includes a portion of the wiring for the Fuser Exit Sensors) as required. If the wiring is OK, replace the MCU PWB (PL 11.2).

Open Area 5. Actuate the **Front** Fuser Exit Sensor by handcranking paper onto the actuator. Close Area 5. Close Area 5. Access the Digital Input (DI) test from the Control Panel. Enter code [25]. Press the Item/Enter button. **The Display is 0.**

**Y N**

Go to Flag 1, Flag 3, and Flag 4. Check for an open circuit or a short circuit to ground. Repair or replace the Main Harness (PL 11.1), the Fuser Harness (PL 8.5), or the Temperature Sensor (PL 8.2) (which includes a portion of the wiring for the Fuser Exit Sensors) as required. If the wiring is OK, replace the **Front** Fuser Exit Sensor (PL 8.2). If the problem persists, replace the MCU PWB (PL 11.2).

Open Area 5. Remove paper from the Front Fuser Sensor actuator. Close Area 5. Access the Digital Input (DI) test from the Control Panel. Enter code [4B]. Press the Item/Enter button. **The Display is 1.**

**Y N**

Go to Flag 5 and Flag 7. Check for a short circuit to ground. Repair or replace the Main Harness (PL 11.1), the Fuser Harness (PL 8.5), or the Temperature Sensor (PL 8.2) (which includes a portion of the wiring for the Fuser Exit Sensors) as required. If the wiring is OK, replace the MCU PWB (PL 11.2).

Open Area 5. Actuate the **Front** Fuser Exit Sensor by handcranking paper onto the actuator. Close Area 5. Close Area 5. Access the Digital Input (DI) test from the Control Panel. Enter code [4B]. Press the Item/Enter button. **The Display is 0.**

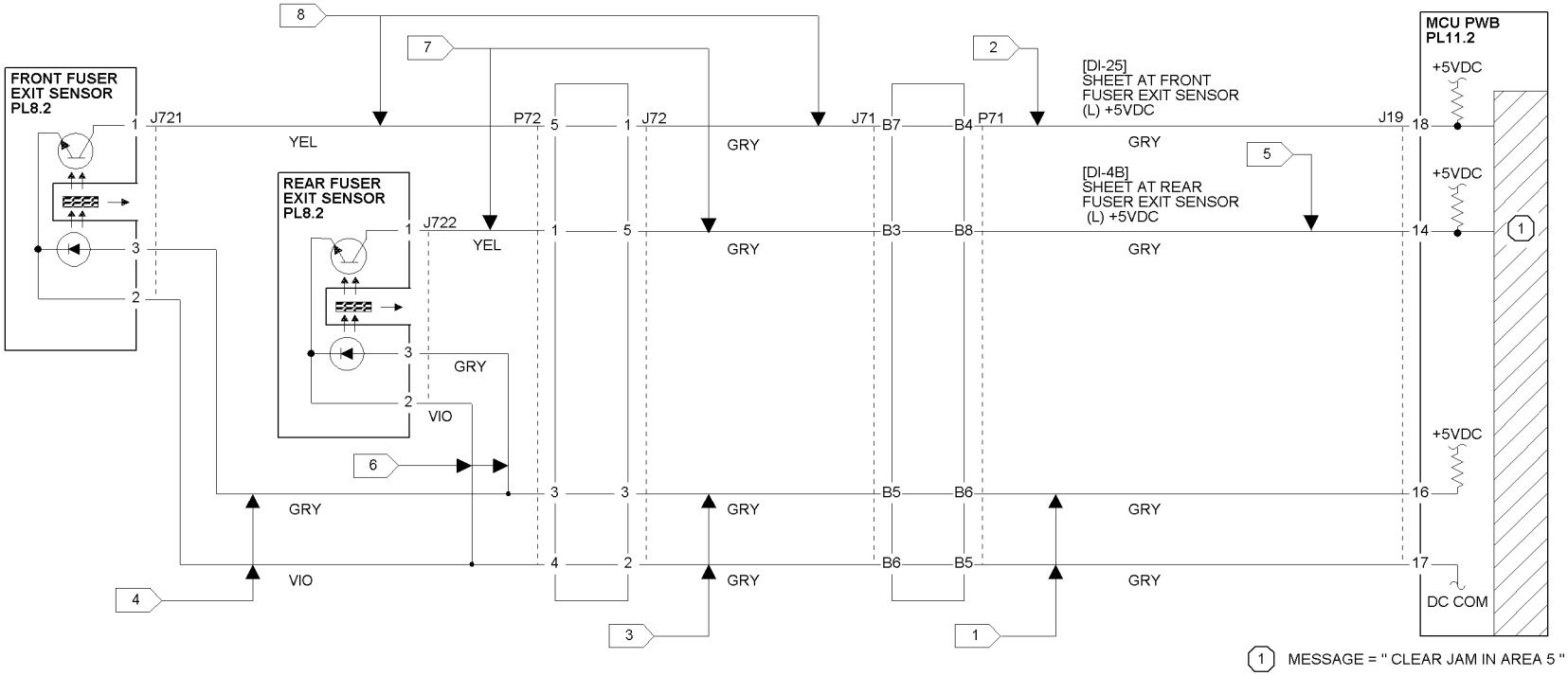
**Y N**

Go to Flag 6. Check for an open circuit or a short circuit to ground. Repair or replace the Main Harness (PL 11.1), the Fuser Harness (PL 8.5), or the Temperature Sensor (PL 8.2) (which includes a portion of the wiring for the Fuser Exit Sensors) as required. If the wiring is OK, replace the **Rear** Fuser Exit Sensor (PL 8.2). If the problem persists, replace the MCU PWB (PL 11.2).

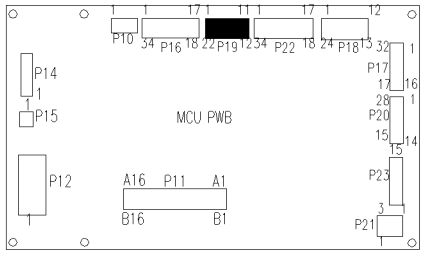
**A**

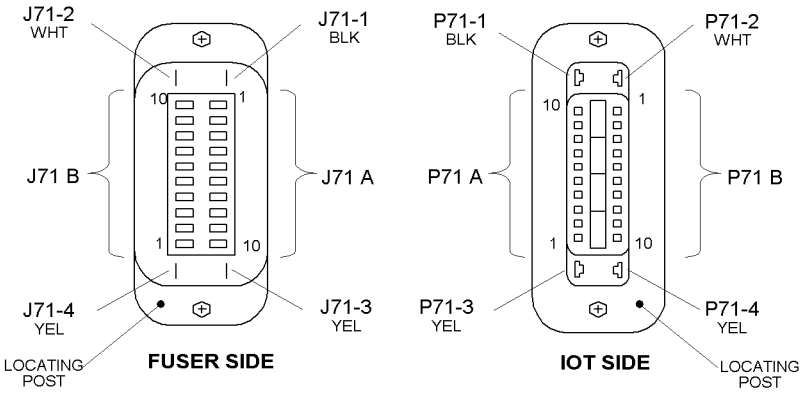
**A**

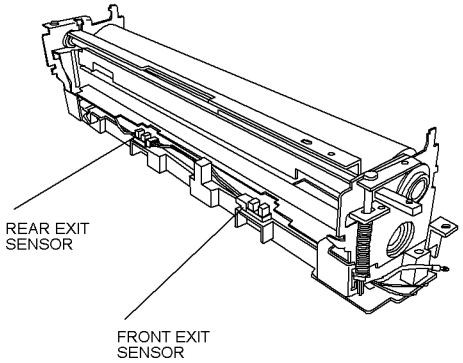
The problem may be intermittent. Go to Figure 1. Check for loose or damaged connections or damaged wires. If the wiring is OK, replace the **Front** Fuser Exit Sensor (PL 8.2). If the problem continues, replace the **Rear** Fuser Exit Sensor (PL 8.2). If the problem still persists, replace the MCU PWB (PL 11.2).




**P/J71 PIN CONFIGURATION**




T710010A-WOL

**Figure 1 010-703 RAP Circuit Diagram**

# 010-704 Faulty Fuser Chute Fan RAP

Use this procedure to troubleshoot an intermittent or faulty Fuser Chute Fan. No Fault Code or Error Message is associated with the failure of this component.

## Initial Actions

Ensure that there are no obstructions or physical conditions that might inhibit normal fan operation.

Ensure that the Exit Transport Assembly (PL 9.2) is installed correctly and has mechanical drive.

## Procedure

Access the Digital Output (DO) test from the Control Panel. Enter code [64]. Press the Item/Enter button. **The Fuser Chute Fan energizes.**

**Y N**

Remove the Fuser Assembly REP 10.1. **+5VDC is available from P71-A2 to P71-A1.**

**Y N**

Go to Flag 1. Check for an open circuit. Repair or replace the Fuser Harness (PL 8.5) as required. If the wiring is OK, replace the MCU PWB (PL 11.2).

Go to Flag 2. Check for an open circuit. Repair or replace the Fuser Harness (PL 8.5) as required. If the wiring is OK, replace the Fuser Chute Fan (PL 8.6).

The problem may be intermittent. Go to Figure 1. Check for loose or damaged connections or damaged wires. If the wiring is OK, replace the Fuser Chute Fan (PL 8.6). If the problem persists, replace the MCU PWB (PL 11.2).

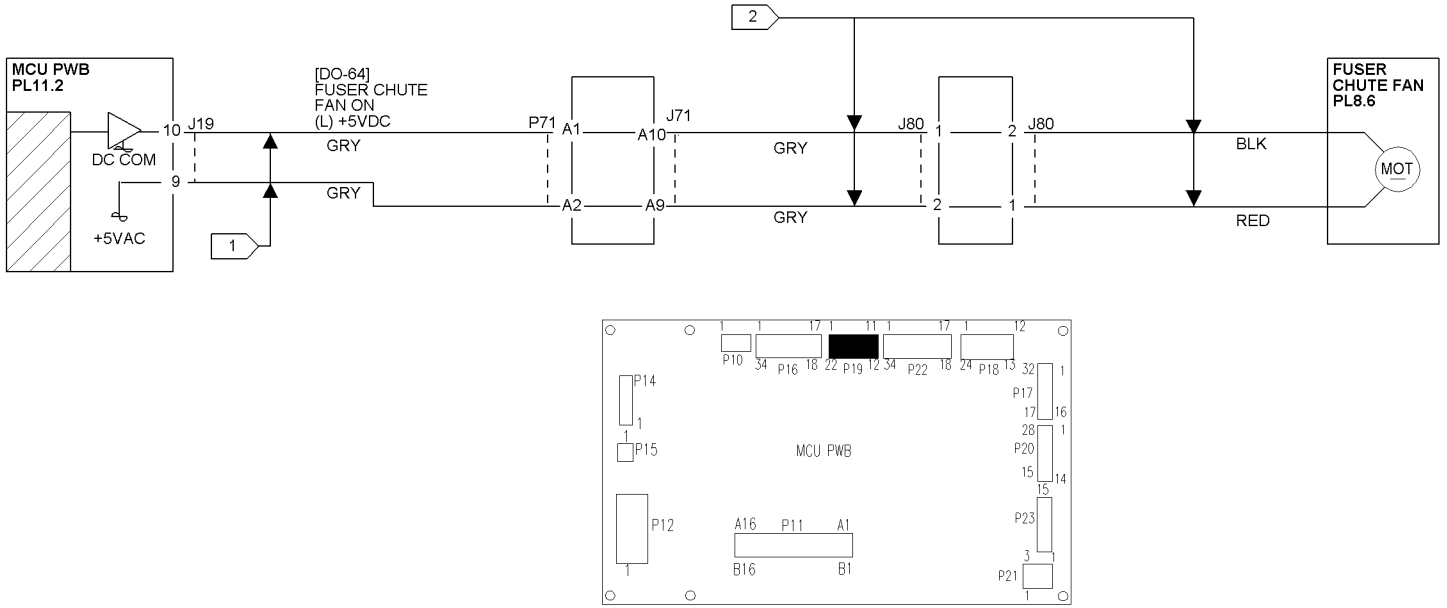



**Figure 1 010-704 RAP Circuit Diagram**

# 010-705 Faulty Exchange Solenoid RAP

The Exchange Solenoid failed to operate correctly causing an error message or a Fault Code to be displayed.

## Initial Actions

***NOTE:*** *The resistance value of the Exchange Solenoid should measure approximately 45-50 ohms from the center (Blue) wire to either of the other two wires. The resistance value measured from the Red wire to the White wire should be approximately 90-95 ohms.*

## Procedure

**CAUTION**

*Do not select more than one (1) Diagnostic Code at a time or damage to the solenoid will occur.*

Manually place the Exchange Chute in the DOWN position so that paper will be directed to the Top Exit Tray (Solenoid in PUSH position). Access the Digital Output (DO) test from the Control Panel. Enter code [18]. Press the Item/Enter button. **The Exchange Solenoid pulls- in or attempts to pull-in (the Exchange Chute makes an audible sound as it moves or attempts to move).**

**Y N**

Remove the Fuser Assembly REP 10.1. Check the resistance between J71-B4 and J71-B10. **The resistance is between 45 and 50 ohms.**

**Y N**

Go to Flag 4. Check for an open circuit. Repair or replace the Fuser Harness (PL 8.5) as required. If the wiring is OK, replace the Exchange Solenoid Assembly (PL 8.5)

Go to Flag 3 and Flag 5. Check for an open circuit. Repair or replace the Main Harness (PL 11.1) as required. If the wiring is OK, replace the MCU PWB (PL 11.2).

Enter [Stop DO Test] from the Control Panel. Enter code [18]. Press the Item/Enter button. Select [DO-17] and press the Item/Enter button. **The Exchange Solenoid pushes-out or attempts to push-out (the Exchange Chute makes an audible sound as it moves or attempts to move).**

**Y N**

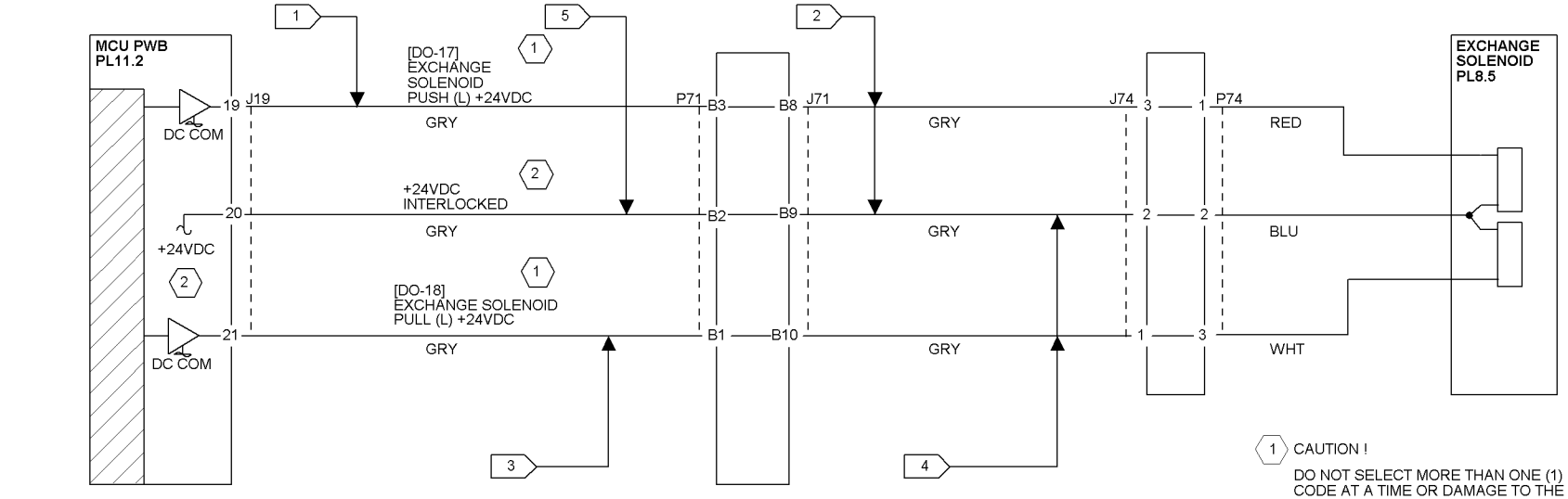
Remove the Fuser Assembly REP 10.1. Check the resistance between J71-B8 and J71-B9. **The resistance is between 45 and 50 ohms.**

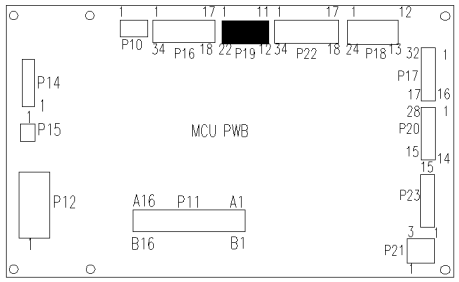
**Y N**

Go to Flag 2. Check for an open circuit. Repair or replace the Fuser Harness (PL 8.5) as required. If the wiring is OK, replace the Exchange Solenoid Assembly (PL 8.5).

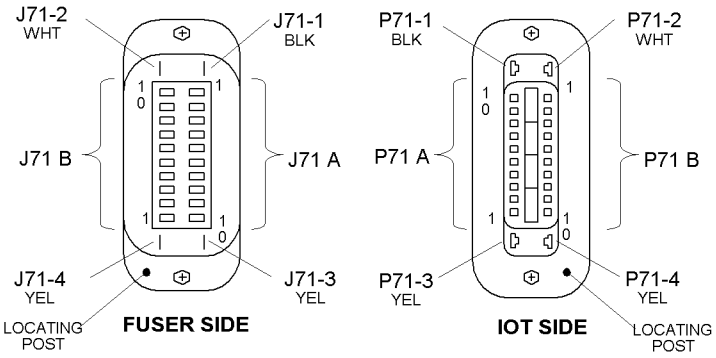
Go to Flag 1. Check for an open circuit. Repair or replace the Main Harness (PL 11.1) as required. If the wiring is OK, replace the MCU PWB (PL 11.2).

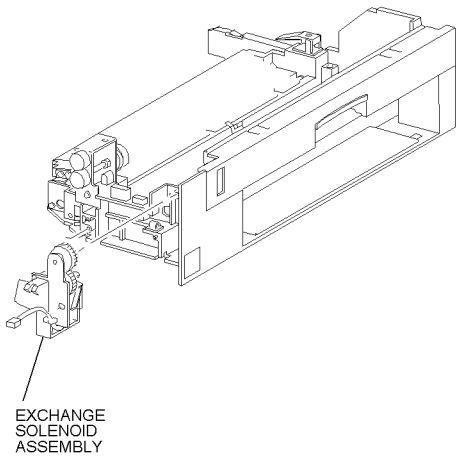
The problem may be intermittent. Go to Figure 1. Check for loose or damaged connections or damaged wires. Also check for continuity. If the wiring is OK, replace the Exchange Solenoid Assembly (PL 8.5). If the problem continues, replace the MCU PWB (PL 11.2).




**P/J71 PIN CONFIGURATION**




T710012A-WOL

**Figure 1 010-705 RAP Circuit Diagram**

# 011-700 Sorter Not In Correct Position RAP

Sorter Control PWB logic has detected that the Sorter is not docked correctly.

## Initial Actions

- Ensure that the Sorter is completely and correctly docked by pushing the Sorter all the way against the IOT.
- Ensure that the Rear Cart Support (PL 19.6) is secured to the Rail Plate (PL 19.6).

## Procedure

***NOTE:*** *Prior to replacing a component, unplug the connectors to the components (Docking Interlock Switch). Check the connectors for broken, bent and dirty pins. Unplug and plug-in the connectors several times to remove contaminants due to oxidation.*

Remove the Front and Rear Covers from the Sorter. Measure voltage between J 6-1 of the Sorter Control PWB and GND. Ensure that the Sorter is pushed all the way against the IOT. Then move the Sorter to the left. **The meter changes state from a Low (0 VDC) to a High (+5 VDC).**

**Y N**

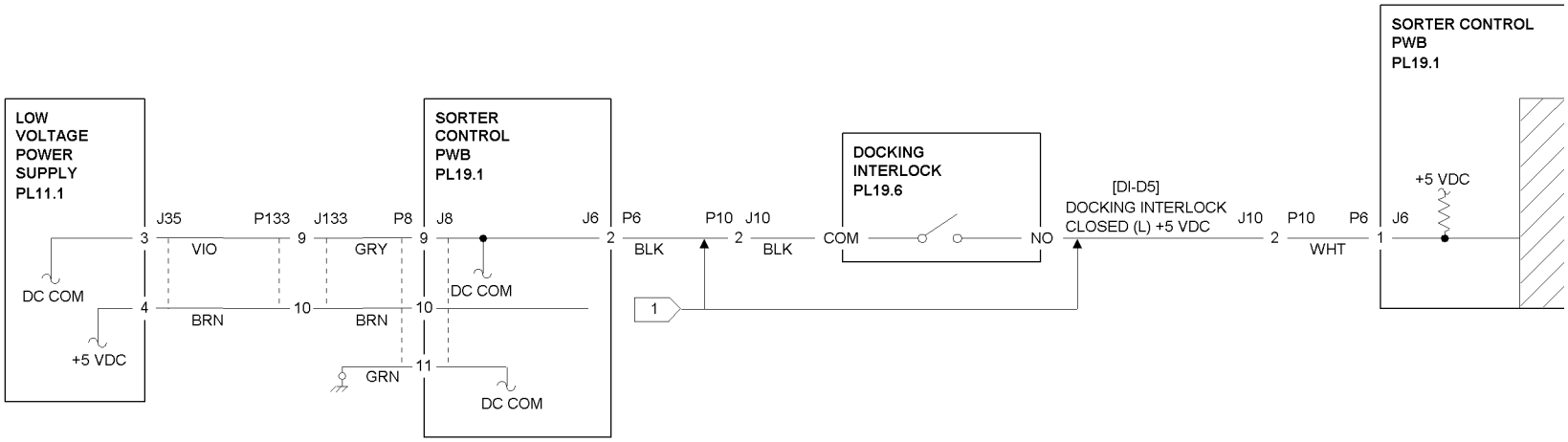
**The voltage remains Low (0 VDC).**

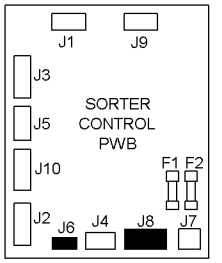
**Y N**

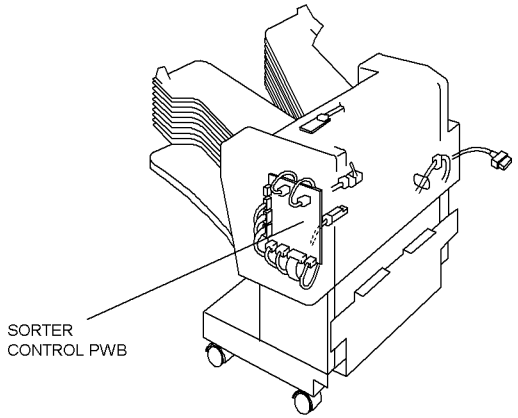
Go to Flag 1. Check the harness for an open circuit. If the harness is OK, replace the Docking Interlock (PL 19.6).

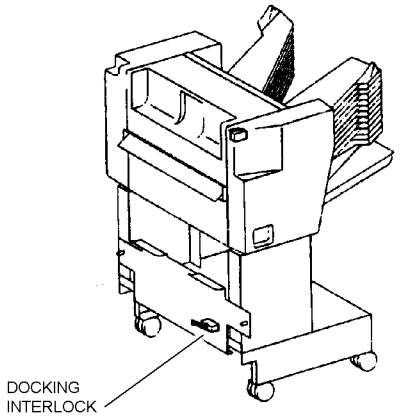
Go to Flag 1. Check the harness for a short circuit. If the harness is OK, replace the Docking Interlock (PL 19.6).

The docking interlock appears to be operating normally. Check the alignment between the docking mechanism and the Docking Interlock.




T711000-A-W

**Figure 1 011-700 RAP Circuit Diagram**

# 011-701 Sorter Bin Jam RAP

Sorter Control PWB logic did not detect paper at the Sorter Path Sensor within 600 ms (the same amount of time allowed for the bins to move one level) after the last sheet has left the Sorter Path Sensor.

## Initial Actions

Check the Sorter Transport Motor Belt for damage and correct tension. Also check the Bin Drive Motor Assembly for broken or worn gears.

## Procedure

***NOTE:*** *Prior to replacing a component, unplug the connectors to the components (Bin Cam Switch and Bin Drive Motor). Check the connectors for broken, bent and dirty pins. Unplug and plug-in the connectors several times to remove contaminants due to oxidation. The resistance created by the contaminants will change the Machine Timing (measured in ms) which is incapable of being observed with a multi meter.*

Observe the Sorter Bins during power up and initialization of the Sorter. **The Sorter Bins initialize correctly.**

**Y N**

Remove the Front and Rear Covers from the Sorter. Remove the two screws on the Bin Home Switch from under the Bin Assembly so as to be able to actuate and deactuate the switch. Measure the voltage between J 4-3 (+) of the Sorter Control PWB and GND (-). Actuate and deactuate the switch. **The meter changes state from a Low (0 VDC) to a High (+5 VDC).**

**Y N**

**The voltage remains Low (0 VDC).**

**Y N**

Go to Flag 2 and check the harness for an open circuit. If the harness is OK, replace the Bin Home Switch (PL 19.4).

**There is +5 VDC between J 8-10 (+) and GND (-).**

**Y N**

Refer to the +5 VDC wirenet and check the wires for an open circuit to the Sorter Control PWB.

Go to Flag 2 and check the harness for an short circuit. If the harness is OK, replace the Bin Home Switch (PL 19.4). If the problem persists, replace the Sorter Control PWB (PL 19.1).

The Bin Home Switch appears to be working normally. Check the Bins for proper alignment. If the problem continues, replace the Sorter Control PWB (PL 19.1).

Remove the Front and Rear Covers from the Sorter. Remove the two screws on the Bin Cam Switch from under the Bin Cam Assembly so as to be able to actuate and deactuate the switch. Measure the voltage between J 4-1 (+) of the Sorter Control PWB and GND (-). Actuate and deactuate the switch. **The meter changes state from a Low (0 VDC) to a High (+5 VDC).**

**Y N**

**The voltage remains Low (0 VDC).**

**A**

**A**

**Y N**

Go to Flag 1 and check the harness for an open circuit. If the harness is OK, replace the Bin Cam Switch (PL 19.4).

**There is +5 VDC between J 8-10 and GND (-).**

**Y N**

Refer to the +5 VDC wirenet and check the wires for an open circuit to the Sorter Control PWB.

Go to Flag 1 and check the wires for a short circuit. If the harness is OK, replace the Bin Cam Switch (PL 19.4). If the problem persists, replace the Sorter Control PWB (PL 19.1).

Reinstall the Bin Cam Switch. Access the Digital Output (DO) test from the Control Panel. Enter code [C6]. Press the Item/Enter button. **The Bin Drive Motor energizes and the Bins move up one (1) Bin.**

**Y N**

**There is +24 VDC between J9-3 (+) on the Sorter Control PWB and GND (-).**

**Y N**

Go to 011-702 Sorter Cover Open RAP.

Go to Flag 3 and check the wire for an open circuit. If OK, replace the Bin Drive Motor (PL 19.4).

Enter [Stop DO Test] from the Control Panel. Enter code [C6]. Press the Item/Enter button. Access the Digital Output (DO) test from the Control Panel. Enter code [C5]. Press the Item/Enter button. **The Bin Drive Motor energizes and the Bins move down one (1) Bin.**

**Y N**

**There is +24 VDC between J 9-3 (+) on the Sorter Control PWB and GND (-).**

**Y N**

Go to 011-702 Sorter Open RAP.

Go to Flag 4 and check the wire for an open circuit. If OK, replace the Bin Drive Motor (PL 19.4).

Enter [Stop DO Test] from the Control Panel. Enter code [C5]. Press the Item/Enter button. Place a piece of paper in Bin 1. Access the Digital Output (DO) test from the Control Panel. Enter code [D6]. Press the Item/Enter button. **The Display is 1.**

**Y N**

**There is +5 VDC between J 10-4 of the Sorter Control PWB and GND.**

**Y N**

Go to Flag 5. Check for a short circuit to ground. **The wire is good.**

**Y N**

Repair the wire.

**There is +5 VDC between J 5-1 of the Sorter Control PWB and GND.**

**Y N**

Go to Flag 6. Check for an open circuit or a short circuit to ground. **The wire is good.**

**Y N**

Repair the wire.

Replace the Sensor Receiver (PL 19.2).

**B C D**

**B C D**

**There is +5 VDC between P 10-3 and GND.**

**Y N**

Go to Flag 7. Check for an open circuit. **The wire is good.**

**Y N**

Repair the wire.

Go to Flag 8. Check for an open circuit. **The wires are good.**

**Y N**

Repair the wires.

Replace the Sorter Control PWB (PL 19.1).

Replace the Sensor Receiver (PL 19.2).

Replace the Sorter Control PWB (PL 19.1).

Remove the paper in Bin 1. Access the Digital Output (DO) test from the Control Panel. Enter code [D6]. Press the Item/Enter button. **The display is 0.**

**Y N**

Replace the Sensor Receiver (PL 19.2).

Replace the Sorter Control PWB (PL 19.1).

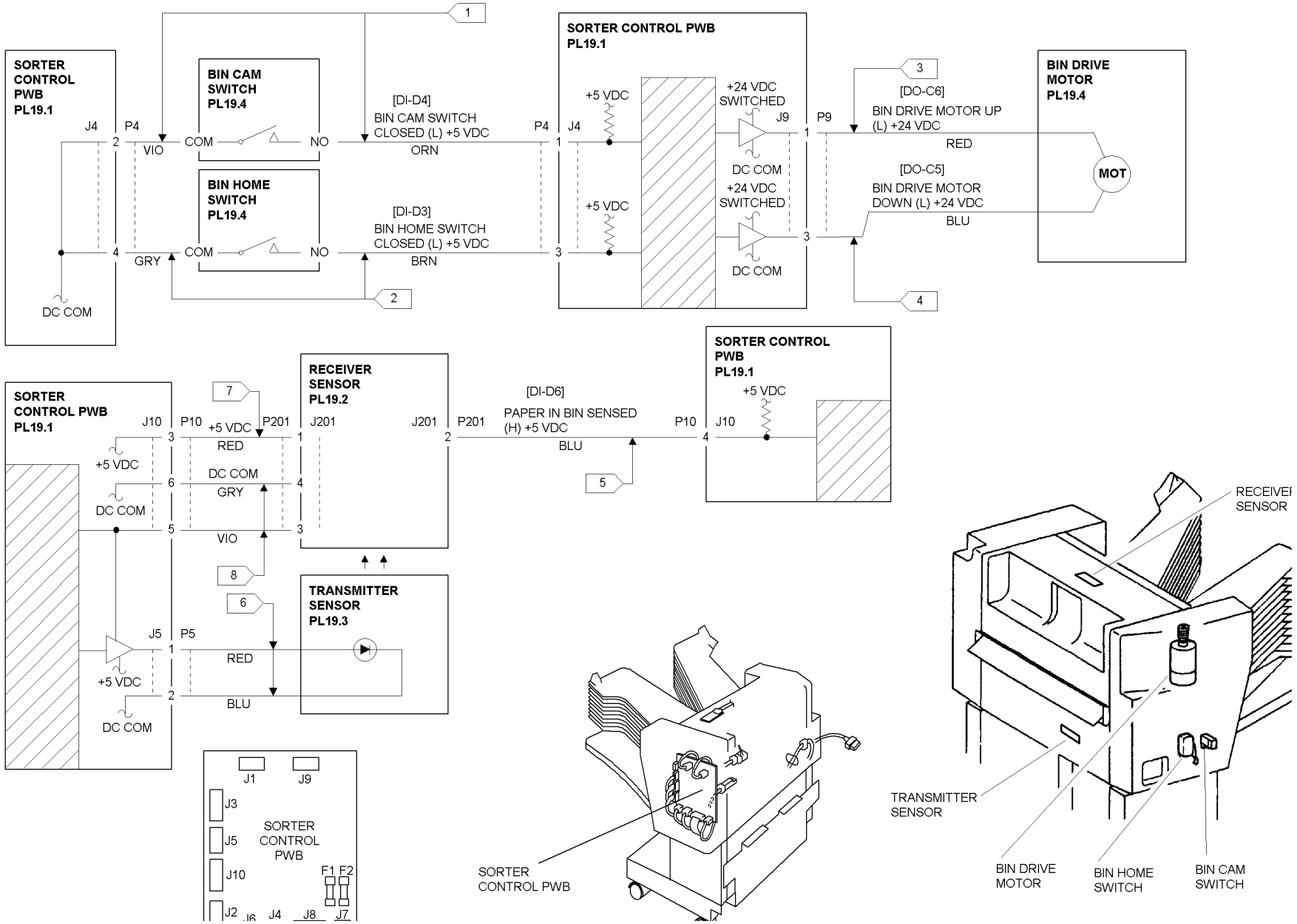



**Figure 1 011-701 RAP Circuit Diagram**

# 011-702 Sorter Cover Open RAP

Sorter Control PWB logic has detected that the Sorter Top Cover is open.

## Initial Actions

Switch off the Copier/Printer then switch on the Copier/Printer to try and clear the “Close Sorter Cover” Message. If the message does not clear or clears momentarily and then returns, continue with this RAP.

## Procedure

Measure the voltage between J 7-1 (+) of the Sorter Control PWB and GND (-). Ensure that the Top Cover is closed and then opened. **The voltage is at first High (+24 VDC) and then goes Low (0 VDC).**

**Y N**

**The voltage between J7-1 of the Sorter Control PWB and GND remains High (+24 VDC).**

**Y N**

**There is +24 VDC between J7-2 of the Sorter Control PWB and GND.**

**Y N**

**There is +24 VDC between J 8-7 of the Sorter Control PWB and GND.**

**Y N**

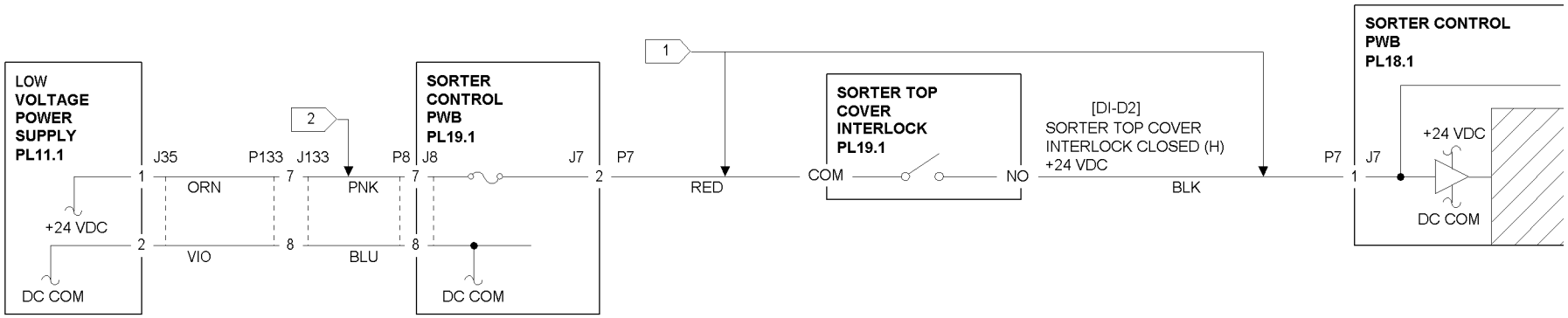
Go to Flag 2. Check the wires for an open circuit.

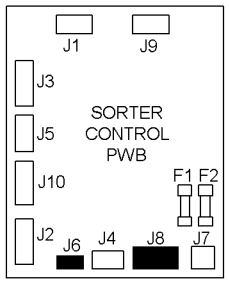
The fuse may be blown. Replace the fuse (PL 19.1) on the Sorter Control PWB with a fuse of the same rating. If the problem persists, replace the Sorter Control PWB (PL 19.1).

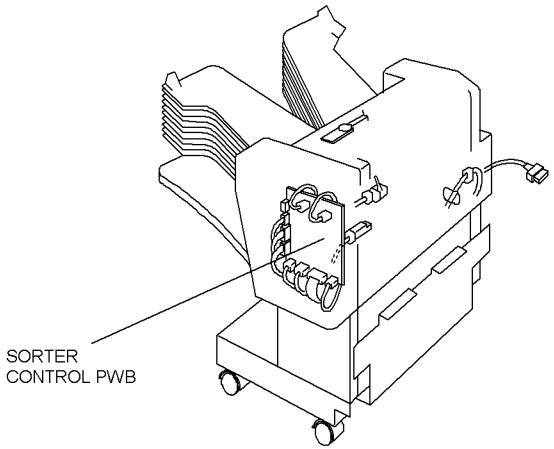
Go to Flag 1. Check the wires for an open circuit. If the wiring is OK, ensure that the Top Cover physically actuates the Interlock. Replace the Top Cover (PL 19.1) as required.

Replace the Sorter Control PWB (PL 19.1).

This indicates that the Top Cover and the Top Cover Interlock are working correctly. If the problem persists, replace the Sorter Control PWB (PL 19.1).



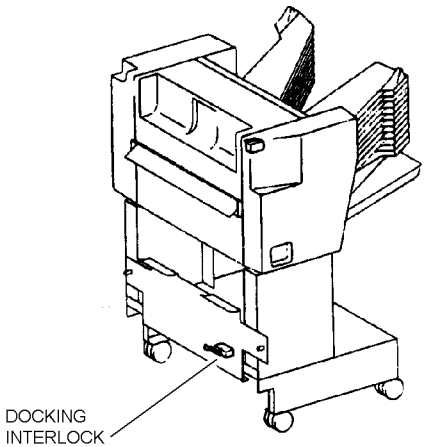




**Figure 1 011-702 RAP Circuit Diagram**

# 011-703 Sorter Transport Jam RAP

Sorter Control PWB logic did not detect paper at the Sorter Path Sensor within a specified time after the Fuser Exit Sensor detected paper.

## Initial Actions

- Check for an obstruction in the Sorter paper path. Repair as required.
- Check for contamination or damage on the Exit Rolls (PL 19.2). Clean or replace as required.

## Procedure

Access the Digital Output (DO) test from the Control Panel. Enter code [CO]. Press the Item/ Enter button. **The Sorter Transport Motor runs.**

**Y N**

**There is +24 VDC between J 1-1 of the Sorter Control PWB and GND.**

**Y N**

Replace the Sorter Control PWB (PL 19.1).

Replace the Sorter Transport Motor (PL 19.2).

Check that the Sorter Path Sensor actuator is operating correctly. **The actuator is present and actuating correctly.**

**Y N**

Replace the Sorter Path Sensor (PL 19.3).

Actuate the Sorter Path Sensor. **There is +5 VDC between J 2-2 of the Sorter Control PWB and GND.**

**Y N**

Go to Flag 2. Check the wires for a short circuit to ground. **The wire is good.**

**Y N**

Repair the wire.

**There is +5 VDC between J 2-1 of the Sorter Control PWB and GND.**

**Y N**

Replace the Sorter Control PWB (PL 19.1).

Go to Flag 1. Check for an open circuit. **The wires are good.**

**Y N**

Repair the wires.

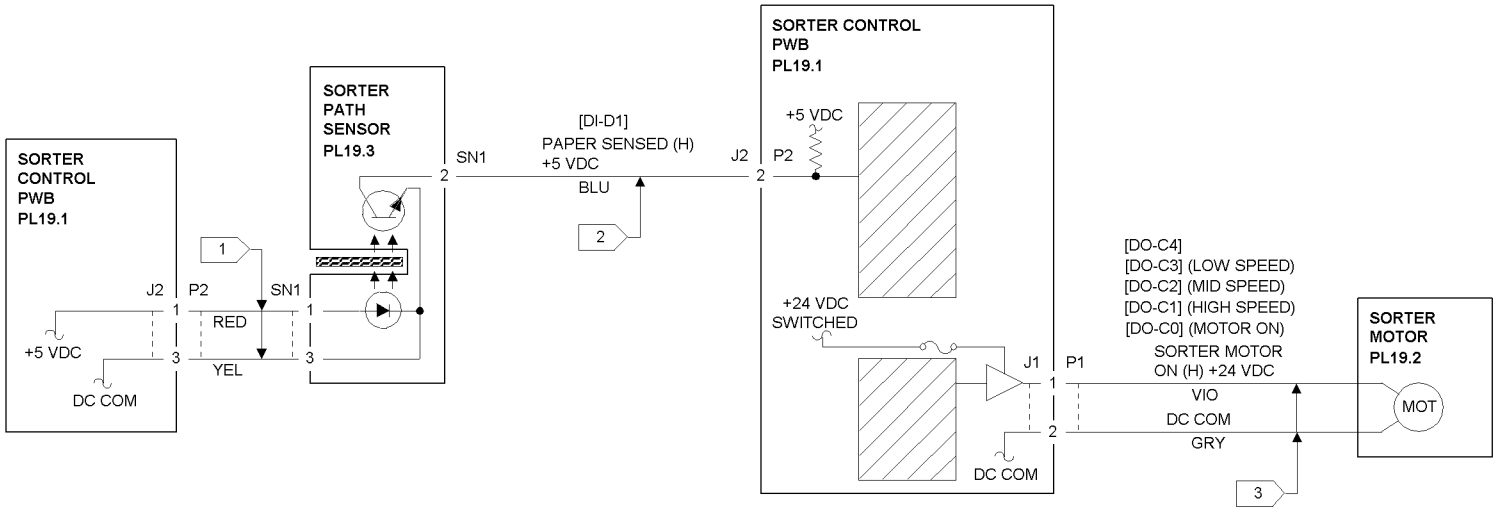
Replace the Sorter Path Sensor (PL 19.3). If the problem persists, replace the Sorter Control PWB (PL 19.1).

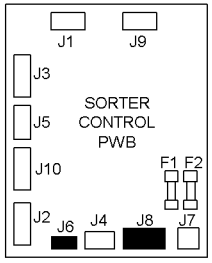
Deactuate the Sorter Path Sensor actuator. **There is 0 VDC between J 2-2 and GND**

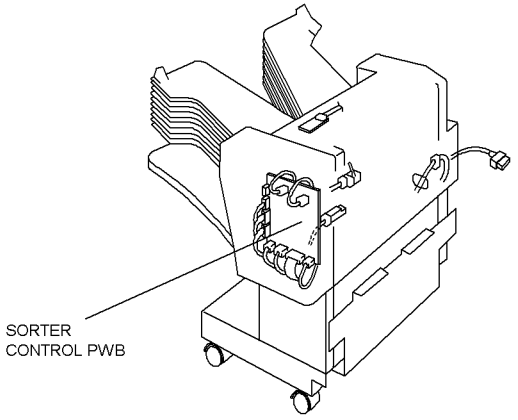
**Y N**

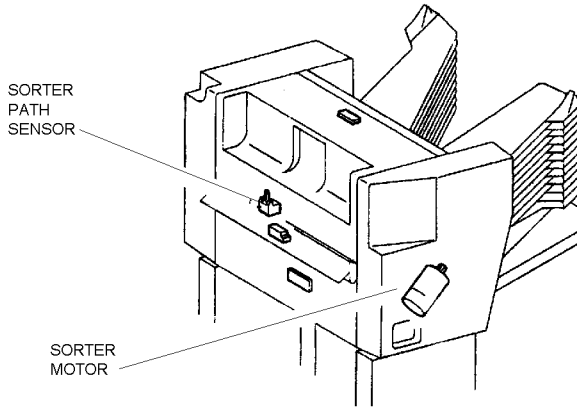
Replace the Sorter Path Sensor (PL 19.3).

Replace the Sorter Control PWB (PL 19.1).




T711003-A-W

**Figure 1 011-703 RAP Circuit Diagram**

# 011-704 Sorter Noise RAP

There is noise emanating from the Sorter at power up.

## Procedure

**There is +5 VDC between J 8-10 of the Sorter Control PWB and GND.**

**Y N**

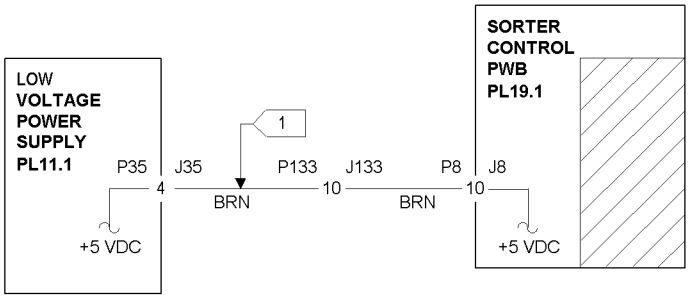
**There is +5 VDC between J35-4 of the Low Voltage Power Supply and GND.**

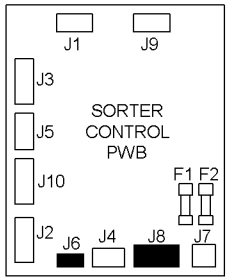
**Y N**

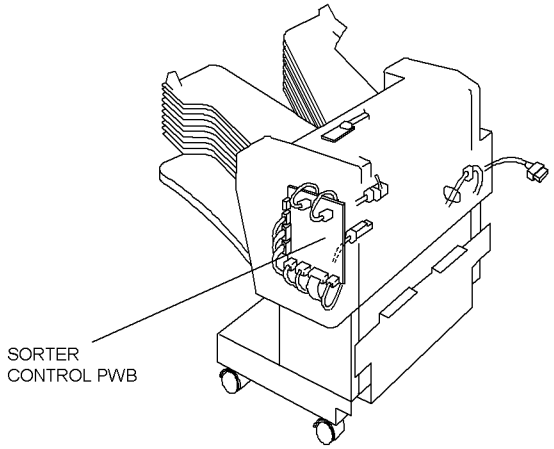
Replace the LVPS (PL 11.1).

Go to Flag 1. Check for an open circuit.

Replace the Sorter Control PWB (PL 19.1).




T711C

**Figure 1 011-704 RAP Circuit Diagram**

# 011-705 Full Sensor RAP

The Sorter Control PWB incorrectly detected that the Stack Tray is full.

## Procedure

Remove any paper from the Stack Tray. Access the Digital Input (DI) test from the Control Panel. Enter code [D0]. Press the Item/Enter button. **The display is 1.**

**Y N**

Go to Flag 2. Check the wires for a short circuit to ground. **The wire is good.**

**Y N**

Repair the wire.

**There is +5 VDC between J 2-4 of the Sorter Control PWB and GND.**

**Y N**

Replace the Sorter Control PWB (PL 19.1).

Go to Flag 1. Check for an open circuit. **The wires are good.**

**Y N**

Repair the wires.

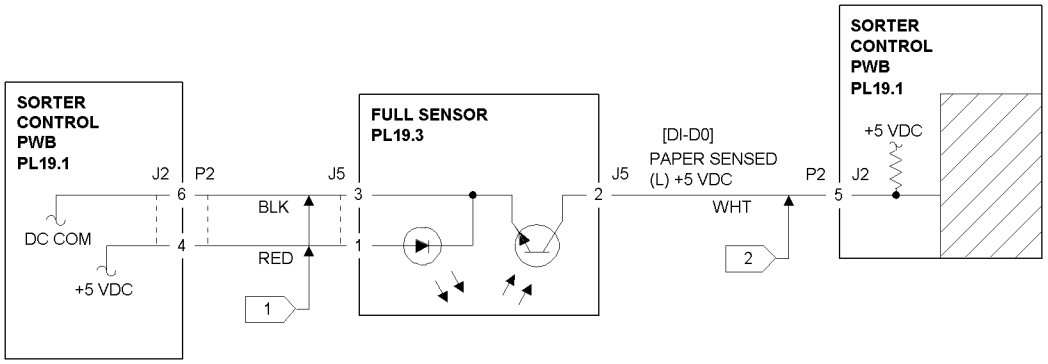
Replace the Full Sensor (PL 19.3). If the problem persists, replace the Sorter Control PWB (PL 19.1).

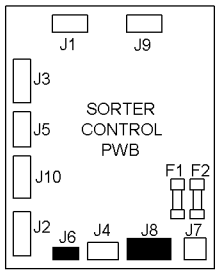
Place 5 sheets of paper in the Stack Tray. Access the Digital Input (DI) test from the Control Panel. Enter code [D0]. Press the Item/Enter button. **The display is 0.**

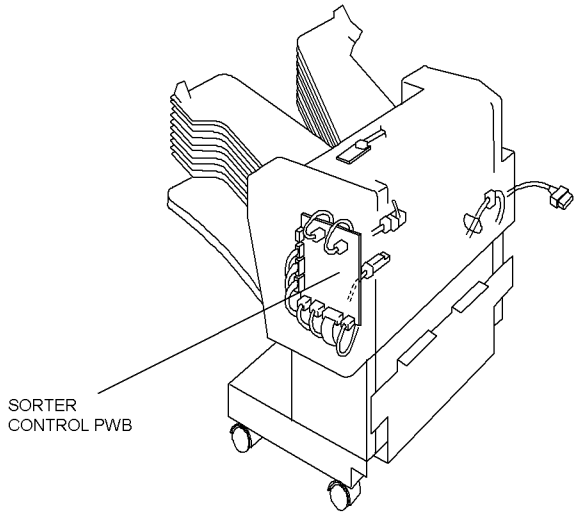
**Y N**

Replace the Full Sensor (PL 19.3).

Replace the Sorter Control PWB (PL 19.1).



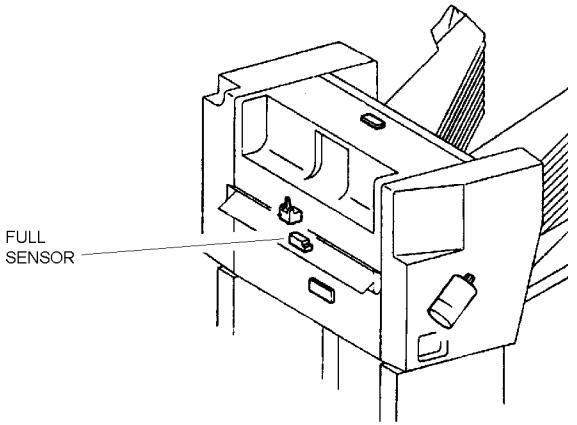




**Figure 1 011-705 RAP Circuit Diagram**

# 011-706 Cannot Select Sorter RAP

Control Logic did not detect the Sorter.

## Procedure

Go to Flag 1. Check the wires for an open circuit. **The wires are good.**

**Y** **N**

Repair the wires.

Replace the Sorter Control PWB (PL 19.1).
Replace the MCU PWB (PL 11.2).

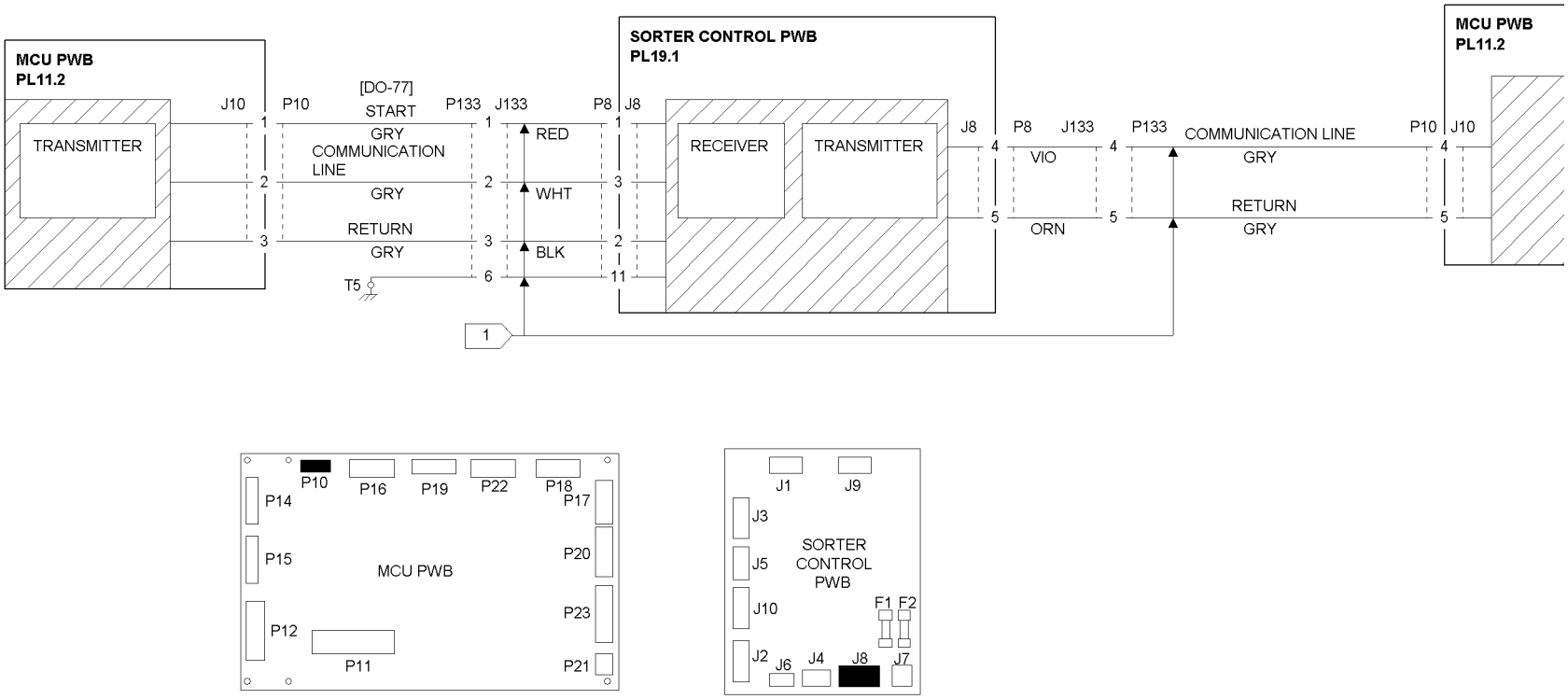



**Figure 1 011-706 RAP Circuit Diagram**

## 016-310 Font ROM Checksum Error RAP

Control Logic detected a Font ROM checksum error

### Procedure

Switch off the power then switch on the power. If the problem still exists, replace the ESS PWB (PL 12.1).

## 016-312 ESS Hard Drive Error RAP

Control Logic detected an ESS Hard Drive error

### Procedure

Switch off the power. Check for a loose connection at the HDD connector. Switch on the power. If the fault remains, replace the Hard Disk Drive (PL 12.1). If the problem still exists, replace the ESS PWB (PL 12.1).

## 016-313 ASIC Access Error RAP

Control Logic detected a ASIC Access error

### Procedure

Switch off the power then switch on the power. If the problem still exists, replace the ESS PWB (PL 12.1).

## 016-315 ESS RAM (Bank 1) RAP

Control Logic detected an ESS RAM Read/Write Check error from Bank 1

### Procedure

Switch off the power. Reseat the Memory module in Slot 1. Switch on the power. If the fault remains, replace the Memory module in Slot 1 (PL 12.1). If the problem still exists, replace the ESS PWB (PL 12.1).

## 016-316 ESS RAM (Bank 2) RAP

Control Logic detected an ESS RAM Read/Write Check error from Bank 2

### Procedure

Switch off the power. Reseat the Memory module in Slot 2. Switch on the power. If the fault remains, replace the Memory module in Slot 2 (PL 12.1). If the problem still exists, replace the ESS PWB (PL 12.1).

## 016-317 ESS ROM RAP

Control Logic detected a ESS Main Program ROM checksum error

### Procedure

Switch off the power then switch on the power. If the problem still exists, replace the ESS PWB (PL 12.1).

## 016-323/324/325 ESS NVM RAM Failure RAP

**016-323:** The Control Logic detected an ESS NVRAM1 (billing) failure.

**016-324**: The Control Logic detected an ESS NVRAM2 (billing) failure.

**016-325**: The Control Logic detected an ESS NVRAM3 (print log) failure.

### Procedure

Replace the ESS PWB (PL 12.1).

## 016-330/331/332/333/334/335/336 Interface Error RAP

**016-330**: Communication error between the ESS and Network Interface (1394) PWBs

**016-331**: Network Interface (1394) PWB Flash ROM Boot Module checksum error

**016-332**: Network Interface (1394) PWB RAM read/write test error

**016-333**: Network Interface (1394) PWB Flash ROM Application Module checksum error

**016-334**: Network Interface (1394) PWB MAC address checksum error

**016-335**: Network Interface (1394) PWB Ethernet RAM read/write parity error

**016-336**: Network Interface (1394) PWB internal loopback test error

### Procedure

Switch off the power then switch on the power. If the fault remains, replace the 1394 PWB (PL 12.1). If the problem still exists, replace the ESS PWB (PL 12.1).

# 016-370 IOT to ESS Communication Failure RAP

The Control Logic detected an IOT to ESS communication failure.

## Procedure

Perform the following:

- Switch off the power. Remove the Right Cover in order to access the ESS PWB.
- Remove and reseat the ESS PWB.
- Switch on the power. If the problem is still present, replace the ESS PWB (PL 12.1).
- If the problem continues, replace the MCU PWB (PL 11.2).

## 033-210 Printer Detection RAP

Connection with the printer failed.

### Procedure

Switch off the power, then switch on the power. If the fault is still present, replace the ICM Main PWB (PL 16.2).

## 033-211/212 IOT/IIT Disconnection RAP

**033-211**: The Control Logic detects a disconnection.

**033-212**: The Control Logic detects no printer.

### Initial Actions

Check the cables and connections between the IIT and the IOT. Ensure that the cables are secure.

Exit, then re-enter the Copy mode. if this does not resolve the problem, switch the power off then on. Verify that the problem still exists.

### Procedure

Remove the Right Cover (REP 14.9). Verify that the 1394 PWB is correctly installed. If the PWB is installed correctly and the problem still exists, replace the 1394 PWB (PL 12.1). If the problem continues, replace the ICM Main PWB (PL 16.2).

## 033-221/222/223/224/225/226/226/227/228 IOT/IIT Communication RAP

**033-221**: The Control Logic detects a 1394 PWB communication time-out.

**033-222**: The Control Logic detects a 1394 PWB communication error.

**033-223**: The Control Logic detects a 1394 PWB connection time-out.

**033-224**: The Control Logic detects a 1394 PWB reconnection time-out.

**033-225**: The Control Logic detects a 1394 PWB reconnection failure.

**033-226**: The Control Logic detects an Async transaction time-out.

**033-227**: The Control Logic detects an Async transaction retry error.

**033-228**: The Control Logic detects a 1394 PWB link chip error.

### Initial Actions

Check the cables and connections between the IIT and the IOT. Ensure that the cables are secure.

Exit, then re-enter Copy Mode. If this does not resolve the problem, switch the power off then on. Verify that the problem still exists.

### Procedure

Remove the Right Cover (REP 14.9). Verify that the 1394 PWB is correctly installed. If the PWB is installed correctly and the problem still exists, replace the 1394 PWB (PL 12.1). If the problem continues, replace the ICM Main PWB (PL 16.2).

## 033-330/331/332 Software Error RAP

An XPro software error was detected.

### Procedure

Replace the IPS PWB (PL 16.2). If the problem remains, replace the ICM Main PWB (PL 16.2).

## 033-340/341/342/343/344/345/350 ASIC Error RAP

**033-340**: An ASIC_A read/write error was detected.

**033-341**: An ASIC_B read/write error was detected.

**033-342**: An ASIC_C read/write error was detected.

**033-343**: An ASIC_S read/write error was detected.

**033-344**: An ASIC_Y read/write error was detected.

**033-345**: An ASIC_M read/write error was detected.

**033-350**: An SCSI_CHIP read/write error was detected.

### Procedure

Switch the power off, then on. If the fault remains, replace the ICM Main PWB (PL 16.2).

## 033-360/361/370/371 Memory Error RAP

**033-360**: A std. SDRAM read/write error was detected.

**033-361**: An optional SDRAM read/write error was detected.

**033-370**: An EEPROM error was detected.

**033-371**: An SRAM error was detected.

### Procedure

Switch the power off, then on. If the fault remains, replace the ICM Main PWB (PL 16.2).

## 033-380/390 1394 Failure RAP

**033-380**: A 1394 PWB initilization error was detected.

**033-380**: A 1394 PWB hardware failure was detected.

### Procedure

Switch the power off, then on. If the fault remains, replace the ICM Main PWB (PL 16.2).

## 033-921/922/930/934/935/936/937 IOT/IIT Communication RAP

**033-921**: The Control Logic detects a disconnection.

**033-922**: The Control Logic detects no printer.

**033-930**: The Control Logic detects a 1394 PWB communication time-out.

**033-934**: The Control Logic detects a 1394 PWB reconnection failure.

**033-935**: The Control Logic detects an Async transaction time-out.

**033-936**: The Control Logic detects an Async transaction retry error.

**033-937**: The Control Logic detects a 1394 PWB link chip error.

### Initial Actions

Check the cables and connections between the IIT and the IOT. Ensure that the cables are secure.

Exit, then re-enter Copy Mode. If this does not resolve the problem, switch the power off then on. Verify that the problem still exists.

### Procedure

Remove the Right Cover (REP 14.9). Verify that the 1394 PWB is correctly installed. If the PWB is installed correctly and the problem still exists, replace the 1394 PWB (PL 12.1). If the problem continues, replace the ICM Main PWB (PL 16.2).

# 033-940/941/943/944/945 SCSI Error RAP

**033-940**: The Control Logic detects a SCSI parity error.

**033-941**: The Control Logic detects that an About Message has been received.

**033-943**: The Control Logic detects a SCSI bus reset

**033-944**: The Control Logic detects a a message reject has been received

**033-945**: The Control Logic detects a SCSI DMA transmission failure

## Initial Actions

Check the following:

- Verify that the SCSI cable between the PC and the Scanner is installed correctly.
- Verify that the terminator switch is in the correct position.
- Switch the PC power off then on. Verify that the problem still exists.

## Procedure

If the problem was not corrected in the Initial Actions of this RAP, replace the SCSI PWB. If the problem still exists, replace the ICM Main PWB (PL 16.2).

# 3 Image Quality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# IQ1 IOT Image Quality Entry RAP

The purpose of this RAP is to serve as the entrance vehicle into the Image Quality RAPs section. All Image Quality RAPs must be accessed through this RAP.

The RAP will have you evaluate the copies made during the Call Flow procedure for image quality defects. It will refer you to the Image Quality Analysis RAPs, the Image Quality Defect section in order to diagnose and repair any image quality problems.

## Initial Actions

Check for the presence of the defect in Copy mode and in Print mode. If the problem occurs in Copy mode only, go to the IQ2 RAP.

## Procedure

Go to Table 1. Compare the prints for any of the listed defects. Perform the corrective action that is listed.

**Table 1 Image Quality Defects**

| Defect | Description | Corrective Action |
|---|---|---|
| ADC Patch printout | A residual image of one or more of the ADC patches that runs in the process direction. | Go to the 009-704 RAP |
| Background | Undesirable toner deposits on the copy or print. The toner deposits can be localized or may cover the entire copy or print. Depending on the density of the background, it is referred to as low, medium, high, or very high background. It may occur in all colors, single colors, or any combination of single colors. | Go to the IQ8 RAP |
| Black (or other Color) Prints | An image is reproduced as solid black (or color) from lead edge to trail edge and from front to rear. The ROS Border may or may not be visible.<br>***NOTE:*** *None of the image from the original is visible in the copy or print.* | Go to the IQ5 RAP |
| Blank Print | Virtually no toner developed onto the copy or print. This defect should not be confused with extremely low image density, where some development actually occurs. | Go to the IQ6 RAP |
| Color Misregistration in Process Direction | Multi-colored images that should be superimposed are offset in the process direction. | Go to the IQ10 RAP |
| Color Misregistration Perpendicular to Process Direction | Multi-colored images that should be superimposed are offset perpendicular to process direction. | Go to the IQ10 RAP |
| Debris-Centered Deletions | Sections of low density or missing image in the areas surrounding Toner agglomerates. | Go to the IQ9 RAP |
| Deletions | The undesirable absence of toner from the copy or print. This defect can show as white, light, or untrue colored areas on the copy or print. The most common example is a deletion caused by the “tenting” of paper from mishandling or moisture, or by dents or defects in the IBT. | Go to the IQ9 RAP |
| Drum Defect | An image defect that has an appearance similar to a horizontal traffic light. The marks usually appear in a group of four, and each mark is a different primary color, arranged in this sequence: yellow, magenta, cyan, and black. | Replace the Copy/Print Cartridge (PL 5.1) |
| Front-to-Rear Density Variation | The uneven development of toner on the copy or print from one area to another. Typically, this results in change in density from front to rear and sometimes from lead edge to trail edge. | Go to the IQ17 RAP |
| Fuser Offset | Random or repeating spots or patches of toner with a corresponding set of white spots where toner has been lifted from the print. | Go to the IQ18 RAP |
| High Frequency Bands | Repeating 1.2 mm interval bands that are most noticeable in low density (20-30%) halftone areas of the copy. These bands run perpendicular to process direction. | Go to the IQ16 RAP |
| High Image Density | A condition that results when too much toner of a single color or combination of colors is developed on the copy or print. This results in darker copies or prints for the single color toner or the color that results from the combination of colors. | Go to the IQ4 RAP |
| Hollow Spots | These defects are small, usually black, ring-shaped defects with hollow centers. They may be round or irregular, and may appear randomly, on lead edge, trail edge or in center of page. | Go to the IQ18 RAP |
| Irregular Streak or Deletion in Process Direction | Streaks: Usually medium-width streaks of (or shifts in) color most noticeable in low density 20-30%) halftone areas of the copy. A deletion in the form of a single streak that runs from the lead edge to the trail edge of the copy. | Go to the IQ14 RAP |
| Low Image Density | A condition that results when too little toner of a single color or combination of colors is developed on the copy or print. This results in lighter copies or prints for the single-color toner or the color that results from the combination of color toners. | Go to the IQ3 RAP |
| Misregistration/Skew | The position of the image relative to the top edge and side edge of the paper is not within specification. | Go to the IQ11 RAP |
| Missing Colors | Only the black portions of a color image are printed | Go to the 009-704 RAP |
| Mottle | Areas of solid, or high density coverage that are reproduced with a surface that resembles marble. | Go to the IQ17 RAP |

**Table 1 Image Quality Defects**

| Defect | Description | Corrective Action |
|---|---|---|
| Regular (repeating) Bands, Streaks, Spots or Smears | A defect that repeats at an interval from14 to 264 mm, is most noticeable in low density (20-30%) halftone areas of the copy, and runs perpendicular to process direction. Lines and bands are generally uniform in shape from one end to the other. Streaks are generally shorter than lines and are of nonuniform width along their length. They may have a more ragged or fuzzy appearance than lines. | Go to the IQ16 RAP |
| Residual Image | A toner image that remains on the photoreceptor or IBT after cleaning. The next image is placed on top of the residual image and both images are transferred to the next copy. | Go to the IQ7 RAP |
| Unfused prints | Image can be rubbed off with little or no pressure | Go to the IQ15 RAP |

# IQ2 IIT Image Quality Entry RAP

This RAP is for troubleshooting IIT (Scanner/ADF) problems only. Before proceeding, verify that the defect is present in Copy mode only. If the defect is present in Print mode, go to the IQ1 RAP.

## Initial Actions

Clean the Lens, the top and bottom surface of the Platen Glass, and all Mirrors with Lens and Mirror Cleaner and a soft, lint-free cloth.

## Procedure

Compare the defective copies with the descriptions listed in Table 1. Perform the corrective action listed for that defect.

**Table 1**

| Defect | Corrective Action |
|---|---|
| Background | Clean the Platen Belt.<br>Perform the Auto-shading adjustment (ADJ 6.6).<br>Perform the B* adjustment (ADJ 6.7). |
| Blurred or Streaked Copy | Ensure that the Platen Glass is installed correctly.<br>Check/adjust the carriage alignment (ADJ 6.2). |
| R/E error | Check/adjust IIT magnification (ADJ 6.1). |
| Deletions | Clean the Lens, the top and bottom surface of the Platen Glass, and all Mirrors with Lens and Mirror Cleaner and a soft, lint-free cloth.<br>If the problem persists, replace the ICM Main PWB (PL 16.2). |
| Misregistration/Skew | Go to the IQ12 RAP. |
| Moire<br>Patterns in the image areas of the print that have the appearance of a screen or grid overlaying the image. The pattern may be uniform or nonuniform in area or shape. | Go to the IQ13 RAP. |
| Newton Rings<br>Repetitive, irregular-shaped marks that occur when making copies of glossy photographs. These marks are most noticeable in large low-density or highlight areas. | Clean the Document Glass<br>Place a transparency between the document and the glass |

# IQ3 Low Image Density RAP

This RAP troubleshoots the causes of output images showing image density lower than specification

## Initial Actions

- Replace the paper in use with fresh, dry paper of the correct specification
- Determine if the Copy/Print Cartridge or any of the Dry Ink Cartridges are approaching end-of-life(GP 3). Replace if necessary.
- Examine the ADC Sensor. If it is dirty, go to the 009-340 RAP.
- Perform VisualCal. If this does not resolve the problem, continue with this RAP.

## Procedure

Make a print of the Test Page (GP 14). **The defect involves a single color.**

**Y N**

Make a print of the Test Page (GP 14). Open the Front Door when the lead edge of the print begins to protrude from the Fuser Exit nip. Open the Fuser and examine the partially-fused sheet. **The low density defect is present in both the fused and unfused portion of the sheet.**

**Y N**

Perform the Fuser Nip Adjustment (ADJ 10.1). If the problem continues, replace the Main Fuser Assembly (PL 8.1).

Make a print of the Test Page (GP 14). As the print is being processed, listen to the Rotary Motor. Open the Front Door immediately after the 4th index is heard. Remove the Copy/Print Cartridge and examine the image on the IBT Belt. **The image on the belt has acceptable density.**

**Y N**

Make a print of the Test Page (GP 14). As the print is being processed, open the Front Door. Remove the Copy/Print Cartridge and examine the image on the drum. **The image on the drum has acceptable density.**

**Y N**

Access the Digital Output Test (GP 2). Enter code 53. Press the **Item/Enter** button. Enter code 56. Press the **Item/Enter** button. **The Dispense Clutch energizes.**

**Y N**

Go to the 009-342 RAP to troubleshoot the Dispense Clutch.

Access the Digital Output Test (GP 2). Enter code 53. Press the **Item/Enter** button. Enter code 21. Press the **Item/Enter** button. **The Developer Clutch energizes.**

**Y N**

Go to the 009-701 RAP to troubleshoot the Developer Clutch.

Switch off the power. Remove the Top Cover and the Copy/Print Cartridge. Check the continuity between the BCR Contact (PL 5.1) and terminal A on the HVPS. **There is continuity.**

**Y N**

Replace the BCR Wire (PL 11.1) and/or the BCR Connector (PL 5.1).

**A B C D**

**A B C D**

Open the Front Cover. Check the continuity between the Developer Contact Plate (PL 6.1) and terminal **C** on the HVPS. **There is continuity.**

**Y N**

Replace the Developer Wire (PL 11.1) and/or Developer Contact Plate (PL 6.1).

Remove the ROS Cover. Reinstall the Copy/Print Cartridge. Check for continuity between the machine frame and the thin strip of uncoated metal at the inboard edge of the xerographic drum. **There is continuity.**

**Y N**

Replace the Copy/Print Cartridge (PL 5.1).

Remove the ROS. Examine the window for contamination. **The ROS window is clean.**

**Y N**

Remove contaminants using a soft, dry, lint-free cloth and minimal pressure. If the window is damaged, replace the ROS (PL 5.1).

**WARNING**

**HIGH VOLTAGE!**

**Exercise caution when measuring High Voltage in the following step.**

Reinstall the ROS and Top covers. Remove the Rear Cover. Switch on the power. Print the Configuration Page from the Main Menu. Measure the voltage from terminal **C** on the HVPS to frame ground. **The voltage cycles between 0 VDC and roughly -500 VDC.**

**Y N**

Go to the 009-342 RAP to troubleshoot the HVPS.

Replace the Copy/Print Cartridge (PL 5.1).
Replace the ADC Sensor (PL 5.1).
If the problem persists, replace the ROS (PL 5.1).
If this does not resolve the problem, replace the MCU PWB (PL 11.2).

Replace the IBT Belt (PL 7.2). If the problem remains, replace the IBT Assembly (PL 7.1).

Replace the BTR 2 Assembly (PL 7.1). If the problem continues, replace the IBT Assembly (PL 7.1).

Check the following:

- Check the Developer Roll spacing (ADJ 9.1) for the affected developer.
- Clean the HV contact for the developer in question.
- Replace the Dry Ink Cartridge if not done previously.
- Replace the Developer Housing (PL 6.2).

# IQ4 High Density RAP

## Initial Actions

- Check the end-of-life counters for the Dry Ink Cartridges and the Copy/Print Cartridge (GP 3). Replace if required.
- Perform VisualCal. If this does not resolve the problem, continue with this RAP.

## Procedure

**The problem involves a single color only.**

**Y N**

Remove the Rear Cover. Observe the Dispense Clutch as a test print is being made. **The Dispense Clutch remains energized constantly.**

**Y N**

Go to the 009-340 RAP to check the functioning of the ADC Sensor.

Go to the 009-342 RAP to troubleshoot the Dispense Clutch.

Check the following:

- Check the Developer Roll spacing (ADJ 9.1) for the affected developer.
- Clean the HV contact for the developer in question.
- Replace the Dry Ink Cartridge (PL 6.2) if not done previously
- Replace the Developer Housing (PL 6.2).

# IQ5 Solid Black (or other Color) Sheet RAP

## Procedure

**WARNING**

**HIGH VOLTAGE!**

**Exercise care when making the voltage check in the following step.**

**CAUTION**

*Do not allow [DO-0E] to run for more than 10 seconds. As soon as the measurement is complete, use the DO Stop Test to cancel switch off the bias.*

Access the Digital Output Test (GP 2). Enter code 0E. Press the **Item/Enter** button. **There is between -400 and -600 VDC from the A terminal of the HVPS to frame ground.**

**Y N**

Go to the 009-341 RAP to troubleshoot the BCR bias circuitry.

Remove the Copy/Print Cartridge. Use a folded sheet of paper to block the light from the ROS. Reinstall the Copy/Print Cartridge. Make a test print. **The defect remains.**

**Y N**

Replace the ROS (PL 5.1). If the problem persists, replace the MCU PWB (PL 11.2).

Replace the Copy/Print Cartridge (PL 5.1). If the problem remains, replace the MCU PWB (PL 11.2).

# IQ6 Blank (or Nearly Blank) Sheet RAP

## Initial Actions

- Check the end-of-life counters for the Dry Ink Cartridge and the Copy/Print Cartridge (GP 3). Replace if required.

## Procedure

### WARNING

**HIGH VOLTAGE!**

**Exercise caution when performing the voltage checks in this procedure.**

Remove the Rear Cover. Connect the DVM between frame ground and the C terminal on the HVPS. Print the Test Page (GP 14). **The voltage cycles between 0 VDC and roughly -500 VDC as the print is being made.**

**Y N**

Check the ROS for debris or dirt blocking the window. Replace the ROS (PL 5.1).

Print the Test Page (GP 14). After the third time that the Rotary Motor indexes, open the Front Door. Remove the Copy/Print Cartridge. **There is a partial toner image on the drum**

**Y N**

Go to the 009-342 RAP to troubleshoot the Developer bias.

Connect the DVM between the D terminal on the HVPS and frame ground. Access the Digital Output Test (GP 2). Enter code 0B. Press the **Item/Enter** button. **Roughly +80 VDC is measured.**

**Y N**

**There is less than 1 VDC from J 42 pin 7 on the HVPS to ground.**

**Y N**

Go to Flag 1. Check for an open circuit. If the wire is OK, replace the MCU PWB.

Go to Flag 3. Check for an open circuit or a short circuit to ground. If the wires are OK, replace the High Voltage Power Supply (PL 11.1).

Exit the diagnostic mode. Make a print of the Test Page (GP 14). Listen for the sound of the Rotary Frame moving. Immediately after hearing the 4th indexing of the Rotary Frame, open the Front Door and remove the Copy/Print Cartridge. Examine the IBT Belt. **There is a toner image of the Test Page on the belt.**

**Y N**

Check the installation and operation of the BTR 2 Cam Assembly and the Belt Cleaner (PL 7.1). If these assemblies are OK, remove the IBT Assembly (PL 7.1). Check for dirt or damage to the BTR 1 and BTR 1 Plate Wire (PL 7.3). Clean, repair, or replace as required.

### WARNING

**HIGH VOLTAGE!**

**Exercise caution when performing the voltage checks in this procedure.**

Connect the DVM between the F terminal on the HVPS and frame ground. Access the Digital Output Test (GP 2). Enter code 0A. Press the Item/Enter button. **Roughly -1000 VDC is measured.**

**Y N**

**There is less than 1 VDC from J 42 pin 10 on the HVPS to ground.**

**A**

**Y N**

Go to Flag 4. Check for an open circuit. If the wire is OK, replace the MCU PWB.

Go to Flag 5. Check for an open circuit or a short circuit to ground. If the wire is OK, replace the High Voltage Power Supply (PL 11.1).

Go to Flag 7. Check for an open circuit. If the wire is OK, examine the BTR 2 Assembly (PL 7.5) and the and the Backup Roll and Contact Roll in the IBT Assembly for damage or contamination. Clean, repair, or replace as required.(PL 7.2).

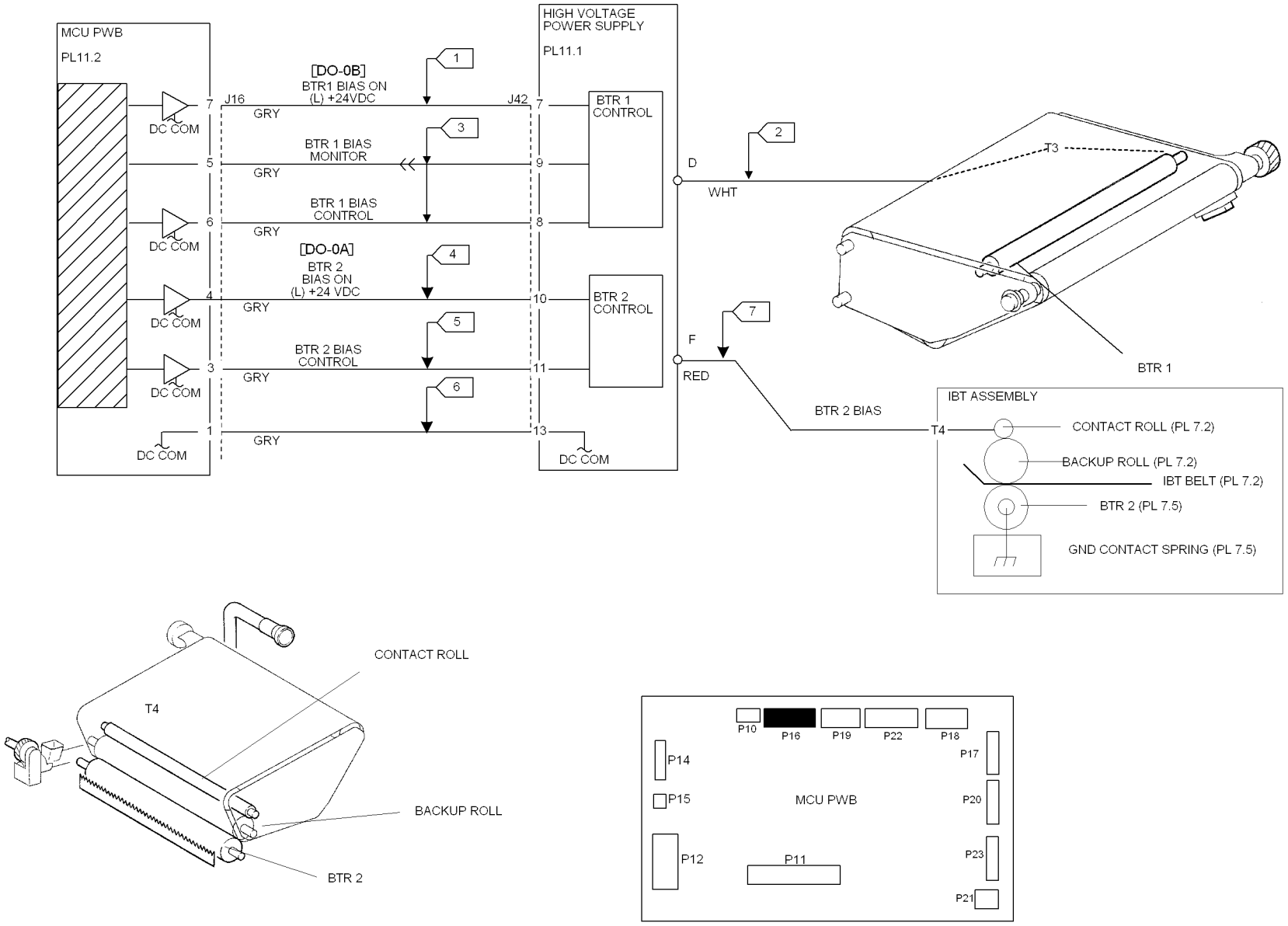



**Figure 1 IQ6 RAP Circuit Diagram**

# IQ7 Residual Image (Ghosting) RAP

## Initial Actions

- Check the end-of-life counter for the Copy/Print Cartridge (GP 3). If the unit is at or near end-of-life, replace the Copy/Print Cartridge (PL 5.1).
- If the problem occurs only with certain types of media, ensure that the media in use is within specification, and that the customer is aware of correct operation of print driver.
- If the distance between the intended image and the residual image has a fixed rate of repetition, go to the IQ16 RAP. Return to this procedure if the problem persists.

## Procedure

Access the Digital Output Test (GP 2). Enter code 71. Press the **Item/Enter** button. Remove the Copy/Print Cartridge. **The Erase lamp is lit.**

**Y N**

**There is +5 VDC from pin 2 to pin 1 on J 86.**

**Y N**

**There is + 5 VDC from J 86 pin 2 to frame ground.**

**Y N**

Go to Flag 1. Check for an open circuit. If the wire is OK, replace the MCU PWB (PL 11.2).

Go to Flag 2. Check for an open circuit. If the wire is OK, replace the MCU PWB (PL 11.2).

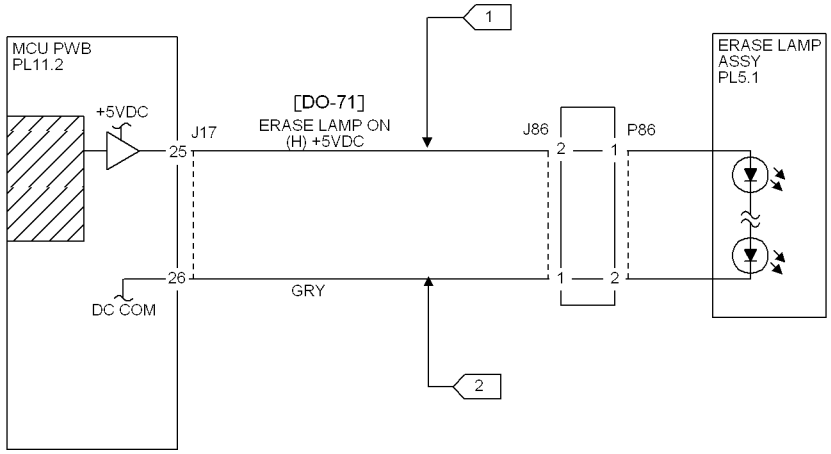
Replace the Erase Lamp (PL 5.1).

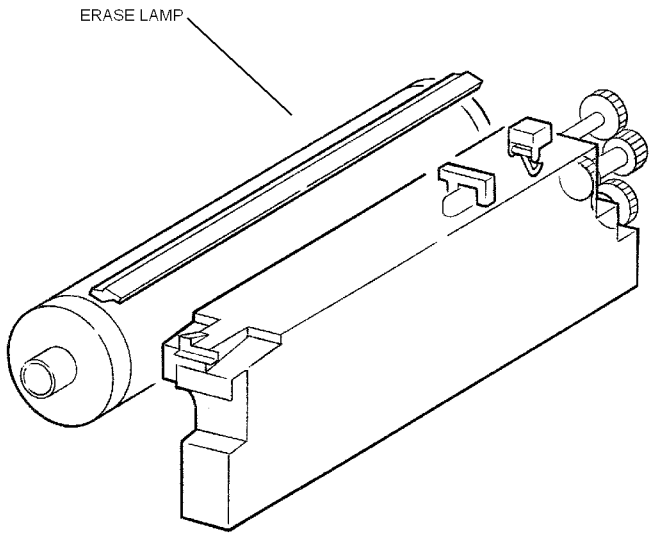
Remove the Fuser. Examine the Heat Roll and Pressure Roll for evidence of toner offsetting. **There is Toner adhering to the Heat Roll or Pressure Roll.**

**Y N**

Check for a residual image on the IBT Belt. Ensure that the Belt Cleaner is operating correctly (go to the 009-704 RAP to troubleshoot Cleaner problems). If the problem persists, replace the Copy/Print Cartridge (PL 5.1).

Clean the Rolls. Adjust the Fuser Nip (ADJ 10.1). If the problem persists, go to the 010-701 RAP to troubleshoot the Temperature Sensor. If this does not resolve the problem, replace the Main Fuser assembly (PL 8.1).



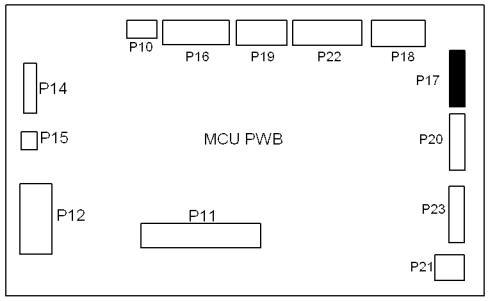




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**Figure 1 IQ7 RAP Circuit Diagram**

# IQ8 IOT Background RAP

## Initial Actions

- Check the end-of-life counter (GP 3) for the Copy/Print Cartridge. If it is at or near end-of-life, replace it (PL 5.1).
- Perform VisualCal (GP 16). If this does not resolve the problem, continue with this RAP.

## Procedure

**The problem is Single Color Background**

**Y N**

Remove the Copy/Print Cartridge. Examine the face of the ADC Sensor. **The ADC Sensor is clean.**

**Y N**

Go to the 009-340 RAP to troubleshoot the ADC Sensor Solenoid.

Examine the IBT Belt for excessive dirt, damage, or uncleaned toner. **The IBT Belt is clean.**

**Y N**

Go to the 009-704 Belt Cleaner RAP.

Remove the ROS (REP 9.3). Examine the ROS window. **The ROS window is clean and undamaged.**

**Y N**

Remove contaminants using a soft, dry, lint-free cloth. Use minimal pressure when cleaning. If the window is scratched or damaged, replace the ROS (PL 5.1).

**WARNING**

**HIGH VOLTAGE!**

**Exercise care when making the voltage check in the following steps.**

Reinstall the ROS and the Copy/Print Cartridge. Remove the rear cover. Select **Print Configuration Page** from the menu. Measure the voltage from the **A** terminal on the HVPS to frame ground as the print is processing. **The voltage cycles from 0 VDC to roughly -500 VDC.**

**Y N**

Go to the 009-341 RAP to troubleshoot the BCR bias circuit.

Select **Print Configuration Page** from the menu. Measure the voltage from the **C** terminal on the HVPS to frame ground as the print is processing. **The voltage cycles from 0 VDC to roughly -500 VDC.**

**Y N**

Go to the 009-342 RAP to troubleshoot the Developer bias circuit.

Replace the IBT Belt (PL 7.2). If this does not resolve the problem, replace the Copy/Print Cartridge (PL 5.1). If the problem persists, replace the MCU PWB (PL 11.2).

Check the following:

- Check the Developer Roll Spacing (ADJ 9.1) for the affected color.
- Check the end-of-life counter (GP 3) for the Dry Ink Cartridge. If it is at or near end-of-life, replace it (PL 6.2).
- Access the IOT PARAM SET menu (See GP 3). Reset the toner density for the affected color to the default value (3). Perform VisualCal.
- If the problem continues, examine the Developer Housing for the affected color. Check for toner bridging, uneven brush, or loose High Voltage terminals. Clean, repair, or replace as required (PL 6.2).

# IQ9 Deletions RAP

## Initial Actions

Reload the machine with fresh, dry paper of the correct specifications. If the problem occurs when using heavyweight paper, ensure that the correct selections are being made on the print driver. If the problem is not resolved, continue with this RAP.

***NOTE:*** *Small white deletions with a sharp edge are usually caused by Fuser offsetting. Go to the IQ18 Spots RAP.*

## Procedure

**The problem is debris-centered deletions (small-area deletions surrounding a dark speck).**

**Y N**

Enter diagnostic mode (GP 1). Access the Pattern Printing routine. Print a copy of the 20% coverage pattern for all colors. **The defect is present for all colors.**

**Y N**

Replace the Developer Housing (PL 6.2) for the affected color.

Make several prints of the Test Page (GP 14). **The defect is present in approximately the same location on all letter-size prints.**

**Y N**

**The defect is present in the same location on every A3/11 x 17 in. print, or on every other letter-size print.**

**Y N**

Rotate the IBT Tension Lever back and forth as you examine the IBT Belt. **There is clearance between the Push In Shaft (PL 7.2) and IBT Belt when the Tension Lever is in the locked position.**

**Y N**

Repair or replace the IBT Assembly (PL 7.2).

Reinstall the Copy/Print Cartridge. Connect the DVM between the D terminal on the HVPS and frame ground. Access the Digital Output Test (GP 2). Enter code 0B. Press the **Item/Enter** button. **Roughly +80 VDC is measured.**

**Y N**

Go to the IQ6 RAP to troubleshoot the BTR 1 bias circuits.

Replace the IBT Belt (PL 7.2).

Replace the IBT Belt (PL 7.2).

Access the Digital Output Test (GP 2). Enter code 71. Press the **Item/Enter** button. Remove the Copy/Print Cartridge. **The Erase lamp is lit.**

**Y N**

**There is +5 VDC from pin 2 to pin 1 on J 86.**

**Y N**

**There is + 5 VDC from J 86 pin 2 to frame ground.**

**Y N**

Go to Flag 1. Check for an open circuit. If the wire is OK, replace the MCU PWB (PL 11.2).

**A B C D**

Go to Flag 2. Check for an open circuit. If the wire is OK, replace the MCU PWB (PL 11.2).

Replace the Erase Lamp (PL 5.1).

Examine the surface of the photoreceptor drum in the Copy/Print Cartridge. Check for dents, scratches, or contamination such as fingerprints, etc. **The drum is clean and free from damage.**

**Y N**

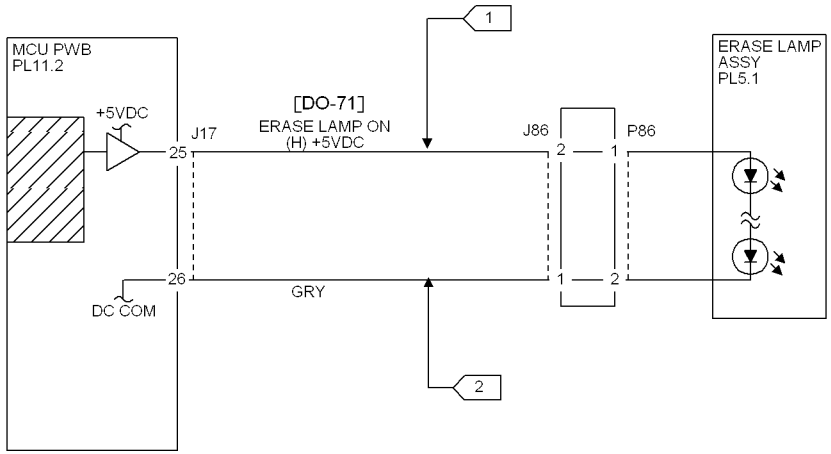
Clean or replace the Copy/Print Cartridge (PL 5.1) as required.

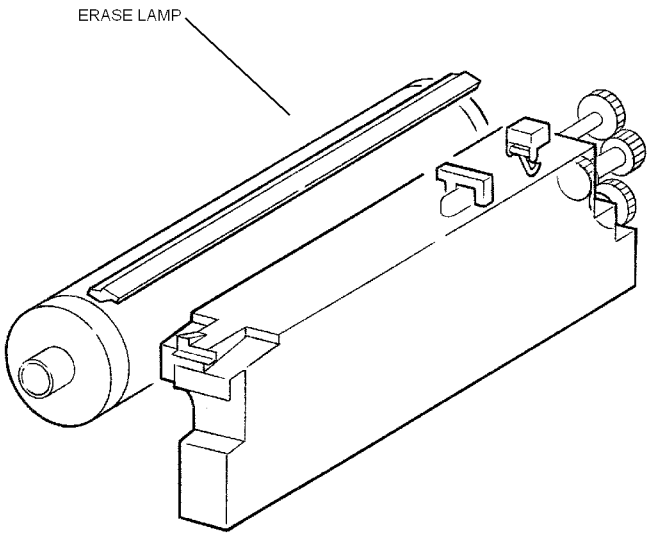
Remove the ROS. Examine the ROS window for dirt or damage. Clean or replace as required.

If the problem remains, replace the Copy/Print Cartridge (PL 5.1). If this does not resolve the problem, replace the ROS (PL 5.1).

Examine the spot in the center of the DCD. Check the Developer spacing (ADJ 9.1) for the affected color. If the check is OK, replace the Developer Housing (PL 6.2) and Dry Ink Cartridge for the affected color.

**A B C D**



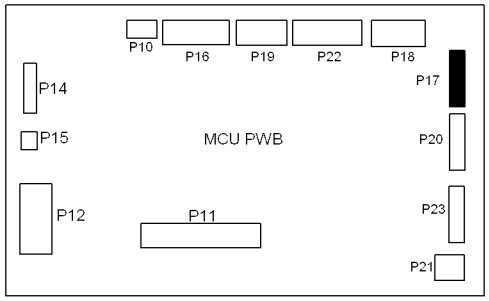




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**Figure 1 IQ9 RAP Circuit Diagram**

# IQ10 Color-to-Color Misregistration RAP

## Procedure

**The problem is misregistration in the process direction.**

**Y N**

Remove the Copy/Print Cartridge. Move the Tension Lever to the locked position. Check that there is adequate tension on the IBT Belt to prevent inboard-to-outboard movement of the belt. **The IBT Belt is secure.**

**Y N**

Repair or replace the IBT Assembly as required (PL 7.2).

Check that the ROS is securely mounted and that the ROS window is not dirty or damaged. If the problem persists, replace the ROS (PL 5.1).

**The problem involves a single color.**

**Y N**

Check that the following components are securely mounted:

- Rotary Sensor (PL 6.1)
- TR0 Sensor (PL 7.3)
- Process Drive Unit (PL 10.1)
- Rotary Motor (PL 10.1)

Check the mounting of the Developer Housing for the affected color. Ensure that it is installed correctly and that it is free from damage. Repair or replace as required (PL 6.2).

# IQ11 IOT Skew RAP

## Initial Actions

Reload fresh, dry paper of the correct specification in all trays. If the problem remains, continue with this RAP.

## Procedure

Make 5 prints from each tray, including the Bypass Tray. **The defect is present on prints from all trays.**

**Y N**

**The skew is from Tray 1.**

**Y N**

**The skew is from the Bypass Tray.**

**Y N**

Switch Tray 2 and Tray 3. **The defect moves with the tray.**

**Y N**

Check the Feed Roll (PL 13.5), Nudger Roll (PL 13.5), and Retard Roll (PL 13.7) of the affected feeder for wear, damage, or contamination. Clean, repair, or replace as required.

Examine the Paper Tray from which the defect is printed. Ensure that the paper guides and the Bottom Plate are free from damage. Clean, repair, or replace as required (PL 13.9).

Check the following:

- Bottom Plate (PL 4.2) for damage or binding
- Feed Roll (PL 4.4) for wear or contamination
- Nudger/Retard Roll (PL 4.5) for wear or contamination

Check the Feed Roll Assembly (PL 3.3) and the Pinch Rolls (PL 3.2) for wear or contamination.

Select **Print Configuration Page** from the menu. Open the front door after the lead edge of the print has passed the nip of the Registration Roll. Fully extend the Bypass Tray. Observe the feed while manually rotating the drive components. **The sheet is skewed at the Registration Roll.**

**Y N**

Replace the ROS (PL 5.1).

Check the Registration Springs, Registration Rubber Roll, and Preregistration Roll for wear or contamination (PL 4.7).

If the problem continues, replace the Main Paper Handling Frame Assembly (PL 4.1).

# IQ12 IIT Skew RAP

## Procedure

Make a copy in Platen mode. **The defect is present.**

**Y** **N**

**The problem is Skew.**

**Y** **N**

Check/adjust ADF Side Registration (ADJ 5.1) and ADF Lead Edge Registration (ADJ 5.2).

Check/adjust the ADF Height (ADJ 5.3) and ADF Front-to-Rear Positioning (ADJ 5.4). If the problem continues, check the Feed Roll and Registration Roll (PL 17.3) for wear or contamination. Clean/replace as required.

Check/adjust IIT Lead Edge Registration (ADJ 6.3) and IIT Side Registration (ADJ 6.4).

# IQ13 Moire RAP

This defect is defined as patterns on the copy that have the appearance of a screen or grid overlaying the image. This pattern may be uniform or non-uniform in area and shape.

## Procedure

- Switch between photo modes to determine which mode minimizes the defect.
- Decrease the **Sharpness** level.
- Reduce or enlarge the copy slightly.
- Rotate the original on the platen by 90 degrees.

# IQ14 Process Direction Bands, Streaks, and Smears RAP

## Procedure

**The defect occurs every print (letter size).**

**Y N**

**The defect occurs every second print (letter size).**

**Y N**

If the defect occurs intermittently, examine the Developer Housings for evidence of toner clumping. If clumping is found, replace the Developer Housing (PL 6.2).

Remove the Belt Cleaner (PL 7.1). Inspect the cleaning blade and Mylar seal for damage. Clean or replace as required.

Go to the 009-704 RAP to check the function of the Belt Cleaner.

If the Belt Cleaner is OK, check the IBT Belt (PL 7.2) for damage or contamination. Clean or replace as required.

**The defect is a process direction deletion.**

**Y N**

Remove the Fuser Assembly (PL 8.1). Examine the Heat Roll and Pressure Roll for damage or contamination. Clean or replace as required (PL 8.3).

Adjust the Fuser Nip (ADJ 10.1).

If the Fuser is OK, replace the Copy/Print Cartridge (PL 5.1).

Enter diagnostic mode (GP 1). Access the Pattern Printing routine. Print a copy of the 20% coverage pattern for all colors. **The defect is present for all colors.**

**Y N**

Replace the Developer Housing (PL 6.2) for the affected color.

Remove the ROS (PL 5.1). Check the ROS window for damage or contamination. Clean or replace as required.

If the problem remains, replace the Copy/Print Cartridge (PL 5.1). If this does not resolve the problem, replace the ROS (PL 5.1).

# IQ15 Unfused Copy RAP

## Initial Actions

Replace the paper in use with fresh, dry paper of the correct specification.

## Procedure

Check the following:

- Check the Temperature Sensor (PL 8.2) for contamination or incorrect mounting. Clean, repair, or replace as required.
- Check the Heat Roll and Pressure Roll (PL 8.3) for damage, toner offsetting, or incorrect installation. Clean, repair, or replace as required.
- Check/adjust the Fuser Nip (ADJ 10.1).

# IQ16 Repeating Bands, Streaks, Spots, and Smears RAP

## Procedure

Measure the distance between the repeating defects. Locate the distance on the table below. Perform the indicated repair actions

**Table 1 Repeating Defects**

| Repetition spacing | Component(s) | Repair Actions |
|---|---|---|
| <4 mm. | High Frequency Banding | Check/adjust the Developer Roll Spacing (ADJ 9.1).<br>Check for damage or contamination to gears on shafts of Rotary Motor, Developer Clutch and Dispense Clutch (PL 10.1). |
| 28 mm. | Developer Magnet Roll | Check Developer roll bias for floating or shorting out.<br>Replace Developer Housing(PL 6.2) if required. |
| 44 mm. | BCR Roll | Replace the Copy/Print Cartridge (PL 5.1). |
| 59 mm. | BTR 1 Roll | Check for intermittent bias contact to Copy/Print Cartridge.<br>Replace the Copy/Print Cartridge (PL 5.1) |
| 88 mm. | BTR 2 Backup Roll<br><br>BTR 2 Roll | Check the BTR 2 Assembly for damage or contamination. Clean, repair or replace as required (PL 7.1).<br>Replace the IBT Assembly (PL 7.1). |
| 90 mm. | Feed Roll | TBD |
| 134 mm. | Fuser Heat Roll<br>Fuser Pressure Roll | Remove the Fuser Assembly. Check the rolls for damage (nicks, wear, or cuts) or contamination. Clean or replace as required (PL 8.1).<br>Check the Fuser Nip (ADJ 10.1).<br>Go to the 010-701 RAP. |
| 264 mm. | Photoreceptor Drum | Check the surface of the drum for contamination or damage. Clean or replace the Copy/Print Cartridge as required. (PL 5.1) |

# IQ17 Uneven Density/Mottle RAP

This RAP troubleshoots the causes of output images showing image density that varies from inboard to outboard edges, or randomly throughout the print.

## Initial Actions

- Replace the paper in use with fresh, dry paper of the correct specification
- Determine if the Copy/Print Cartridge or any of the Dry Ink Cartridges are approaching end-of-life(GP 3). Replace if necessary.
- Perform VisualCal. If this does not resolve the problem, continue with this RAP.

## Procedure

Make a print of the Test Page (GP 14). **The defect involves a single color.**

**Y N**

Make a print of the Test Page. Open the Front Door when the lead edge of the print begins to protrude from the Fuser Exit nip. Open the Fuser and examine the partially-fused sheet. **The defect is present in both the fused and unfused portion of the sheet.**

**Y N**

Perform the Fuser Nip Adjustment (ADJ 10.1). If the problem continues, replace the Main Fuser Assembly (PL 8.1).

Make a print of the Test Page (GP 14). As the print is being processed, listen to the Rotary Motor. Open the Front Door immediately after the 4th index is heard. Remove the Copy/Print Cartridge and examine the image on the IBT Belt. **The image on the belt has acceptable density.**

**Y N**

Make a print of the Test Page (GP 14). As the print is being processed, open the Front Door. Remove the Copy/Print Cartridge and examine the image on the drum. **The image on the drum has acceptable density.**

**Y N**

Switch off the power. Remove the Top Cover and the Copy/Print Cartridge. Check the continuity between the BCR Contact (PL 5.1) and terminal **A** on the HVPS. **There is continuity.**

**Y N**

Replace the BCR Wire (PL 11.1) and/or the BCR Connector (PL 5.1).

Open the Front Cover. Check the continuity between the Developer Contact Plate (PL 6.1) and terminal **C** on the HVPS. **There is continuity.**

**Y N**

Replace the Developer Wire (PL 11.1) and/or Developer Contact Plate (PL 6.1).

Remove the ROS Cover. Reinstall the Copy/Print Cartridge. Check for continuity between the machine frame and the thin strip of uncoated metal at the inboard edge of the xerographic drum. **There is continuity.**

**Y N**

Replace the Copy/Print Cartridge (PL 5.1).

Remove the ROS. Examine the window for contamination. **The ROS window is clean.**

**A B C**

**Y N**

Remove contaminants using a soft, dry, lint-free cloth and minimal pressure. If the window is damaged, replace the ROS (PL 5.1).

### WARNING

**HIGH VOLTAGE!**

**Exercise caution when measuring High Voltage in the following step.**

Reinstall the ROS and Top covers. Remove the Rear Cover. Switch on the power. Print the Configuration Page from the Main Menu. Measure the voltage from terminal **C** on the HVPS to frame ground. **The voltage cycles between 0 VDC and roughly -500 VDC.**

**Y N**

Go to the 009-342 RAP to troubleshoot the HVPS.

Replace the Copy/Print Cartridge (PL 5.1).

Replace the IBT Belt (PL 7.2). If the problem remains, replace the IBT Assembly (PL 7.1).

Replace the BTR 2 Assembly (PL 7.1). If the problem continues, replace the IBT Assembly (PL 7.1).

Check the following:

- If there is a gradation in density from front to rear, check the Developer Roll spacing (ADJ 9.1) for the affected developer.
- Clean the HV contact for the developer in question.
- Replace the Dry Ink Cartridge if not done previously.
- Replace the Developer Housing (PL 6.2).

# IQ18 Spots RAP

## Initial Actions

Ensure that the paper in use is fresh, dry, and within specification for weight and quality.

Compare the spots against the samples in the Image Quality Defects supplement. If the defect matches the Debris Centered Deletions sample, go to the IQ9 RAP. If the defect matches the Drum Defect sample, replace the Copy/Print Cartridge (PL 5.1).

## Procedure

**The defect occurs in Copy mode only.**

**Y N**

**The spots occur at a fixed interval on each print.**

**Y N**

**The spots occur in the same location on every letter size print.**

**Y N**

**The spots occur in the same location on every other letter size print, or in the same location on every 11 X17 in/A3 print.**

**Y N**

**The problem is Fuser offset.**

**Y N**

**CAUTION**

*Do not use a vacuum cleaner or any solvents in the following step. Damage to the Belt Cleaner will result.*

Remove the Belt Cleaner (REP 9.17). Carefully clean the cleaning blade and the Mylar shield with a soft brush or a lint free cloth. Brush away any accumulation of toner on the foam seal and the outside surfaces. Wipe the surface of the IBT Belt with a lint free cloth.
If the problem continues, replace the Belt Cleaner (PL 7.1).

- Check the Fuser Nip (ADJ 10.1).
- Check the Heat Roll and Pressure Roll for dirt, damage, or toner buildup. Clean or replace as required(PL 8.3).

Check the IBT Belt for dirt or damage. Clean or replace as required(PL 7.2).

Check the Copy/Print Cartridge for dirt or damage. Clean or replace as required(PL 5.1).

Go to the IQ16 RAP.

Ensure that the original is free from the defect.
Clean the Platen Glass and Lens.

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# REP 1.1 LVPS

## Parts List on PL 11.1

## Removal

### WARNING

**To avoid personal injury or shock, do not perform repair activities with the power switch on or electrical power applied to the machine.**

1. Switch off the machine power and disconnect the machine Power Cord.
2. Remove the Rear Cover (REP 14.6).
3. Remove the LVPS (Figure 1).

## Replacement

### CAUTION

*Be careful not to get the harness caught in the gears or damaged on sharp sheet metal when installing the LVPS.*

*Be sure to hook the LVPS securely on the left side of the frame when Installing.*

1. Reinstall the LVPS in the reverse order of removal.

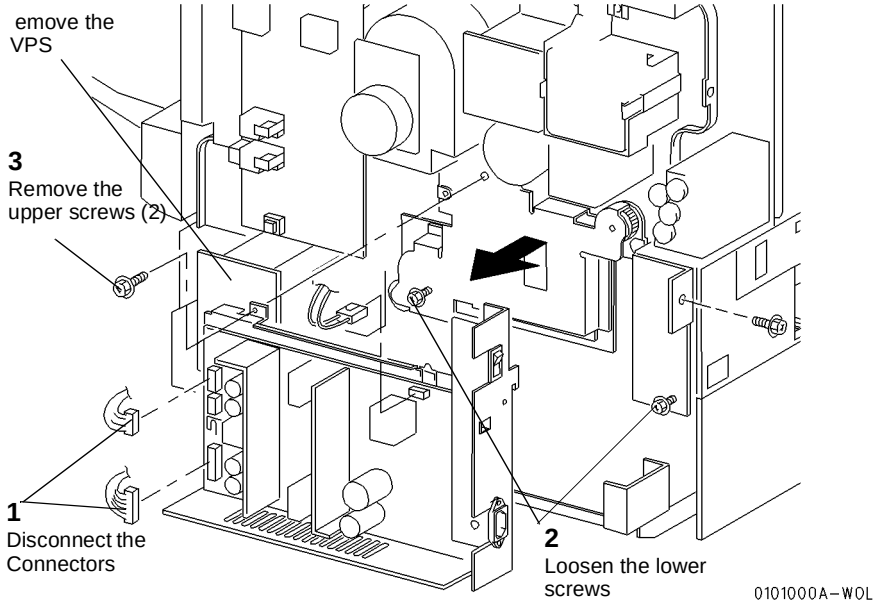


**Figure 1 Removing the LVPS**

# REP 1.2 HVPS

## Parts List on PL 11.1

## Removal

### WARNING

**To avoid personal injury or shock, do not perform repair activities with the power switch on or electrical power applied to the machine.**

1. Switch off the machine power and disconnect the machine Power Cord.
2. Remove the Rear Cover (REP 14.6).
3. Remove the HVPS (Figure 1).

## Replacement

### CAUTION

*Be careful not to get the harness caught in the gears or damaged on sharp sheet metal when installing the HVPS.*

1. Reinstall the HVPS in the reverse order of removal.

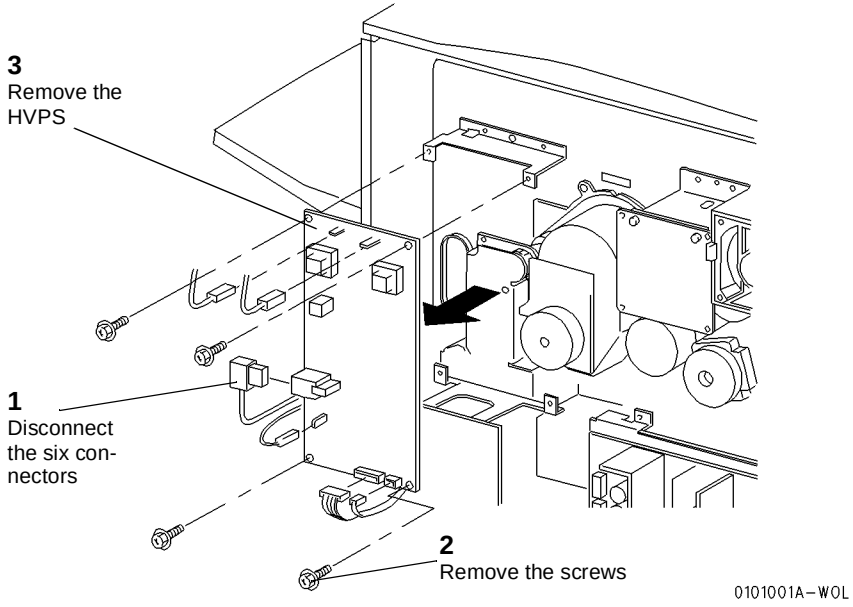


**Figure 1 Removing the HVPS**

# REP 1.3 Top Cover Interlock

## Parts List on PL 11.1

## Removal

### WARNING

**To avoid personal injury or shock, do not perform repair activities with the power switch on or electrical power applied to the machine.**

1. Switch off the machine power and disconnect the machine Power Cord.
2. Remove the Top Cover Assembly (REP 14.4).
3. Remove the Rear Cover (REP 14.6).
4. Remove the Top Cover Interlock (Figure 1).

## Replacement

1. Reinstall the Top Cover Interlock in the reverse order of removal.

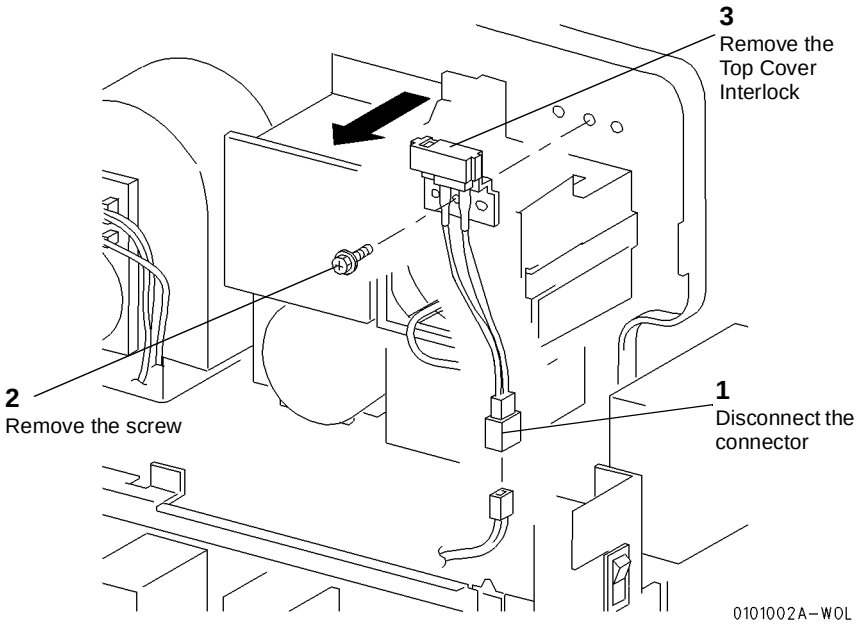


**Figure 1 Removing the Top Cover Interlock**

# REP 1.4 Developer Fan

## Parts List on PL 11.1

## Removal

### WARNING

**To avoid personal injury or shock, do not perform repair activities with the power switch on or electrical power applied to the machine.**

1. Switch off the machine power and disconnect the machine Power Cord.
2. Remove the Rear Cover (REP 14.6).
3. Remove the Developer Fan (Figure 1).

## Replacement

### CAUTION

*Install the Developer Fan so that the manufacturer's label on the surface faces towards the outside.*

1. Attach the harness securely when reinstalling the Developer Fan.
2. Reinstall the Developer Fan in the reverse order of removal.

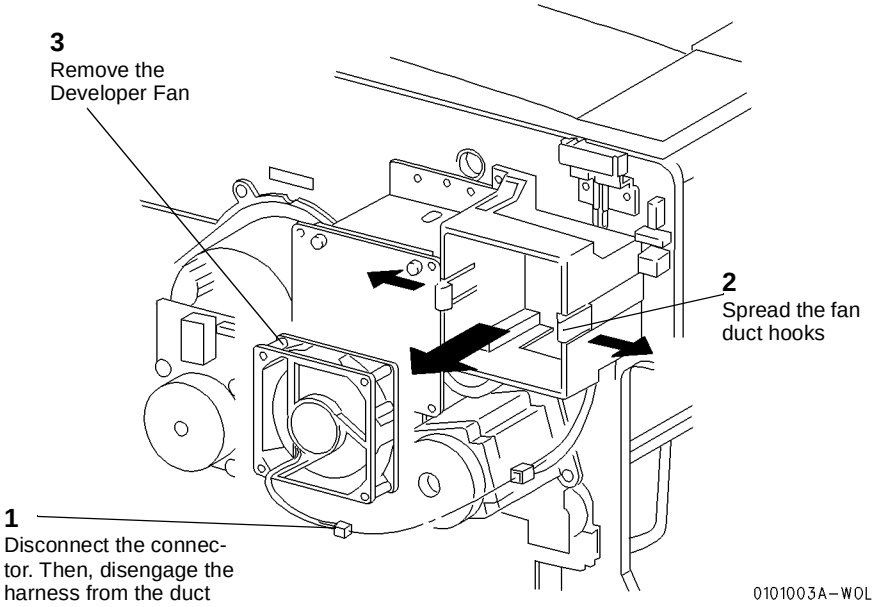


**Figure 1 Removing the Developer Fan**

# REP 1.5 MCU PWB

## Parts List on PL 11.2

## Removal

### WARNING

**To avoid personal injury or shock, do not perform repair activities with the power switch on or electrical power applied to the machine.**

**CAUTION**

*Before replacing the MCU PWB, record the machine values and then reload these values after replacement, if required.*

1. If possible, record the values stored in the machine history (GP 3) and (GP 11).
2. Switch off the machine power and disconnect the machine Power Cord.
3. Remove the Top Cover Assembly (REP 14.4).
4. Remove the Right Cover (REP 14.9).
5. Remove the ESS PWB and Plate as a unit (REP 1.9) (figure 1 of the procedure only).
6. Remove the Controller Chassis (REP 1.11).

**CAUTION**

*Observe the ESD Procedures when removing the MCU PWB.*

7. Remove the MCU PWB (Figure 1).

## Replacement

**CAUTION**

*For proper machine operation, order and install a new MCU PWB from distribution. If a new MCU PWB from distribution is installed and the machine still does not function correctly, you must remove the EPROM at location U2 from the original MCU PWB, and install it on the new MCU PWB. If a new MCU PWB is not available and you must use a PWB removed from another machine, you must remove the EPROM from the original MCU PWB and install it on the replacement MCU PWB.*

1. Reinstall the MCU PWB in the reverse order of removal.

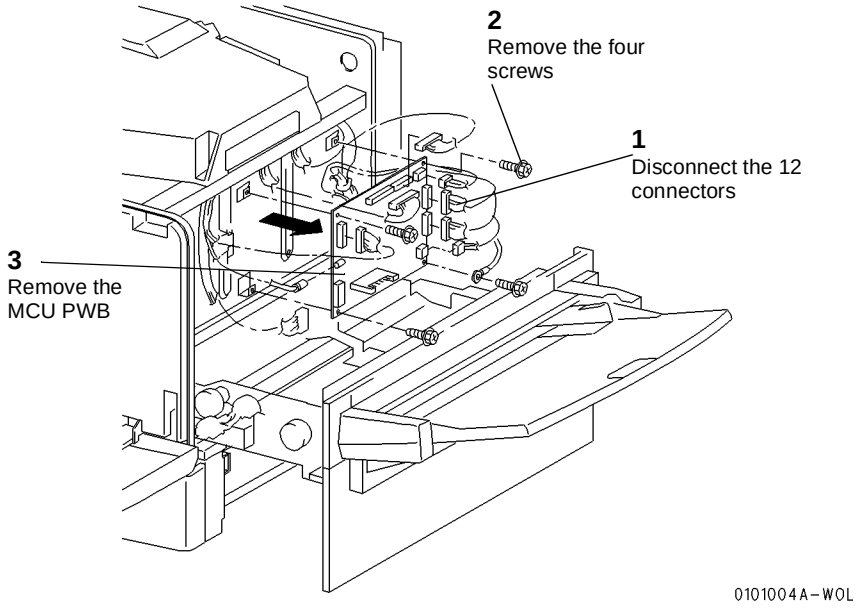


**Figure 1 Removing the MCU PWB**

# REP 1.6 Right Front Cover Interlock

## Parts List on PL 11.2

## Removal

### WARNING

**To avoid personal injury or shock, do not perform repair activities with the power switch on or electrical power applied to the machine.**

1. Switch off the machine power and disconnect the machine Power Cord.
2. Remove the Top Cover Assembly (REP 14.4).
3. Remove the Right Cover (REP 14.9).
4. Remove the ESS PWB (REP 1.9).
5. Remove the Controller Chassis (REP 1.11).
6. Remove the Right Front Cover Interlock (Figure 1).

## Replacement

***NOTE:*** *Ensure that the Right Front Cover Interlock is installed securely.*

1. Reinstall the Right Front Cover Interlock in the reverse order of removal.

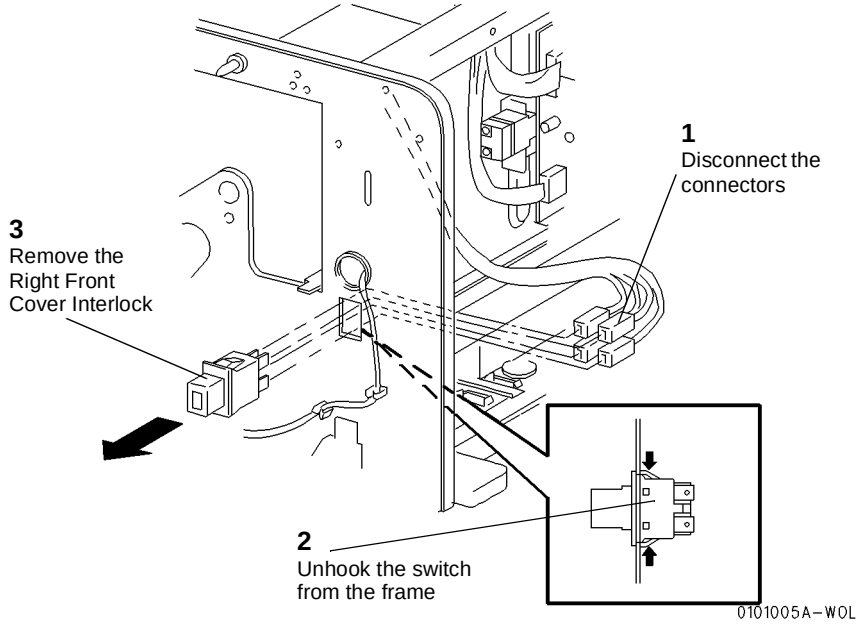


**Figure 1 Removing the Right Front Cover Interlock**

# REP 1.7 Left Front Cover Interlock

## Parts List on PL 11.2

## Removal

### WARNING

**To avoid personal injury or shock, do not perform repair activities with the power switch on or electrical power applied to the machine.**

1. Switch off the machine power and disconnect the machine Power Cord.
2. Remove the Top Cover Assembly (REP 14.4).
3. Remove the Xerographics Cartridge (REP 9.1).
4. Remove the Left Inner Cover Assembly (REP 14.5).
5. Remove the Left Front Cover Interlock (Figure 1).

## Replacement

**CAUTION**

*Ensure that the harness is correctly routed when Installing the Left Front Cover Interlock.*

1. Reinstall the Left Front Cover Interlock in the reverse order of removal.

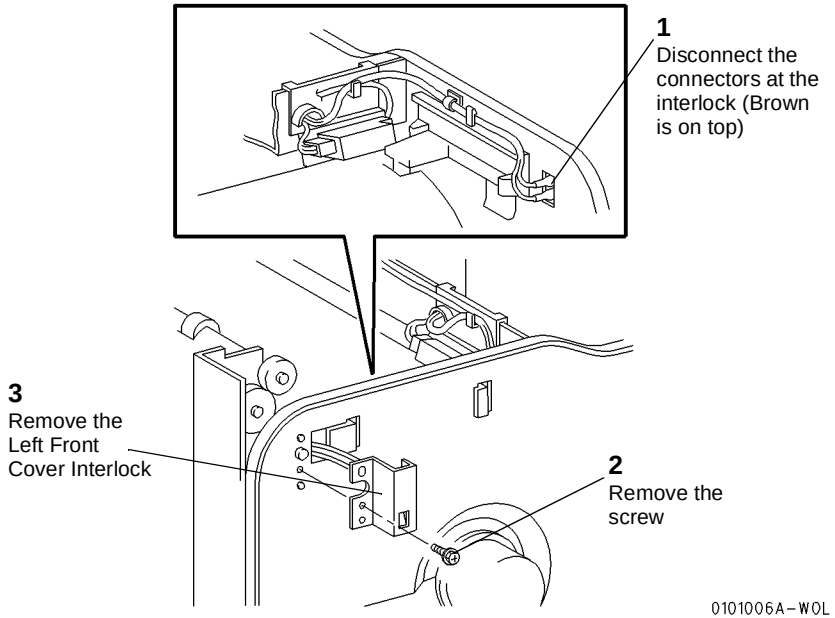


**Figure 1 Removing the Left Front Cover Interlock**

# REP 1.8 Environment Sensor

## Parts List on PL 11.2

## Removal

**WARNING**

**To avoid personal injury or shock, do not perform repair activities with the power switch on or electrical power applied to the machine.**

1. Switch off the machine power and disconnect the machine Power Cord.
2. Remove the Bypass Tray / Registration Assembly (REP 8.10).

**CAUTION**

*Be careful not to touch the IBT Belt surface while removing the Environment Sensor.*

3. Remove the Environment Sensor (Figure 1).

## Replacement

***NOTE:*** *The screw that secures the Environment Sensor also secures the ground wire.*

1. Reinstall the Environment Sensor in the reverse order of removal.

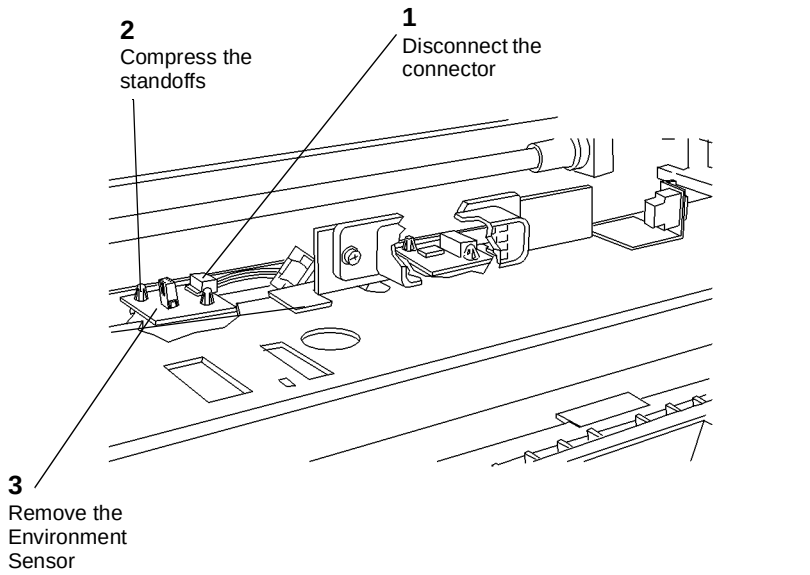


**Figure 1 Removing the Environment Sensor**

# REP 1.9 ESS PWB

## Parts List on PL 12.1

## Removal

**WARNING**

**To avoid personal injury or shock, do not perform repair activities with the power switch on or electrical power applied to the machine.**

1. Switch off the machine power and disconnect the machine Power Cord.
2. Remove the Right Cover (REP 14.9).
3. If the machine is equipped with a Scanner, remove the 1394 PWB (PL 12.1).
4. Prepare to remove the ESS PWB (Figure 1).

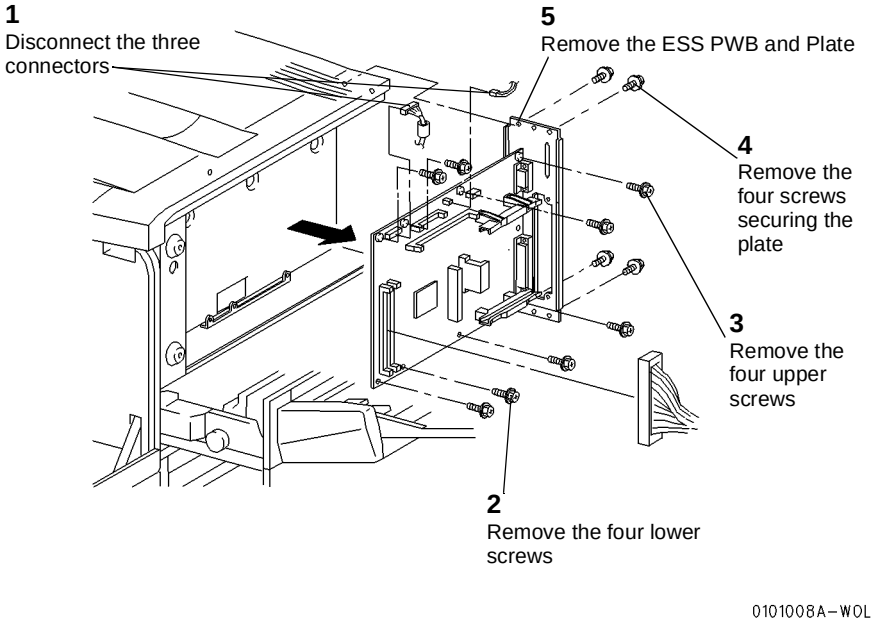


**Figure 1 Preparing to Remove the ESS PWB**

**CAUTION**

*Observe the ESD Procedures when removing the ESS PWB.*

5. Remove the ESS PWB (Figure 2).

## Replacement

**CAUTION**

*The EPROMs at location U39 and U40 on the new ESS PWB will not be used. The EPROMs from the ESS PWB removed from the machine will be installed on the new ESS PWB to maintain proper machine operation. The following steps direct you to remove and replace one EPROM at a time, in order to avoid a mixup of the EPROMs and possible machine malfunction.*

1. Remove the EPROM at location U39 from the old ESS PWB and install it onto the new ESS PWB at location U39.
2. Remove the EPROM at location U40 from the old ESS PWB and install it onto the new ESS PWB at location U40.
3. Reinstall the ESS PWB and the remaining components.

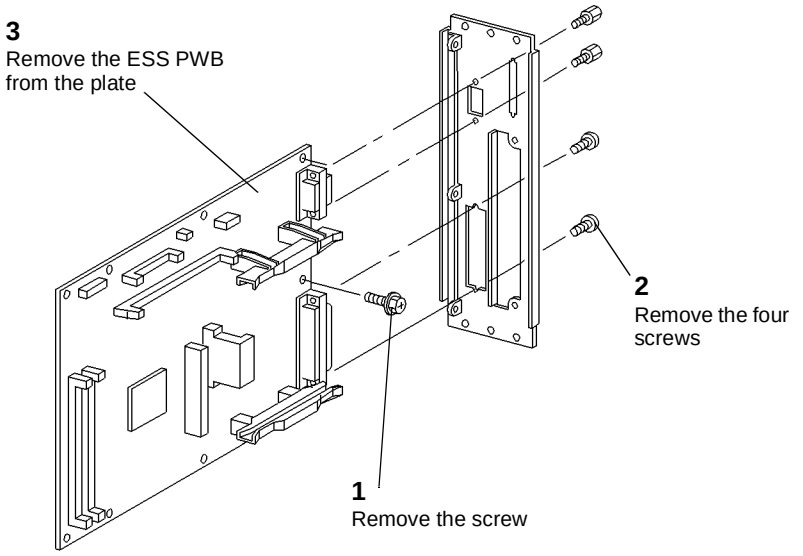


**Figure 2 Removing the ESS PWB**

# REP 1.10 ESS Fan

## Parts List on PL 12.1

## Removal

### WARNING

**To avoid personal injury or shock, do not perform repair activities with the power switch on or electrical power applied to the machine.**

1. Switch off the machine power and disconnect the machine Power Cord.
2. Remove the Top Cover Assembly (REP 14.4).
3. Remove the Right Cover (REP 14.9).
4. Remove the ESS Fan (Figure 1).

## Replacement

### CAUTION

*Ensure that the wire harness is not pinched when installing the harness.*

1. Reinstall the ESS Fan in the reverse order of removal.

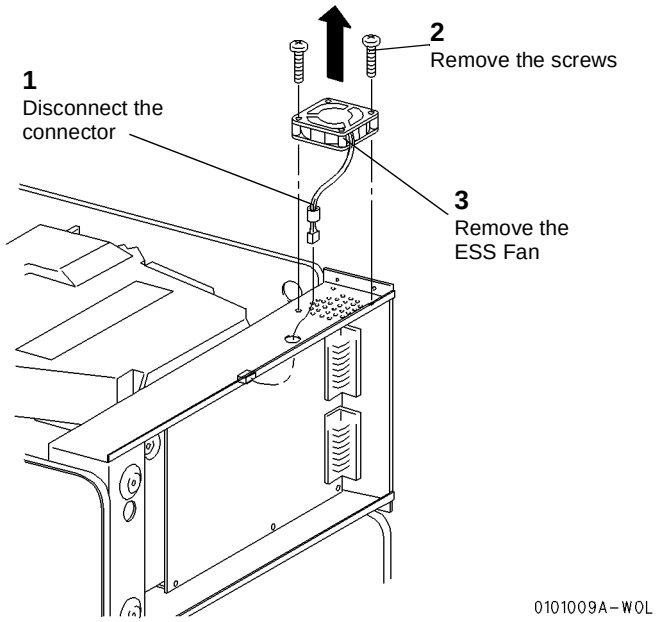


**Figure 1 Removing the ESS Fan**

# REP 1.11 Controller Chassis

## Parts List on PL 12.1

## Removal

### WARNING

**To avoid personal injury or shock, do not perform repair activities with the power switch on or electrical power applied to the machine.**

1. Switch off the machine power and disconnect the machine Power Cord.
2. Remove the Top Cover Assembly (REP 14.4).
3. Remove the Right Cover (REP 14.9).
4. Remove the ESS PWB (REP 1.9).
5. Remove the Controller Chassis (Figure 1).

## Replacement

1. Reinstall the Controller Chassis in the reverse order of removal.

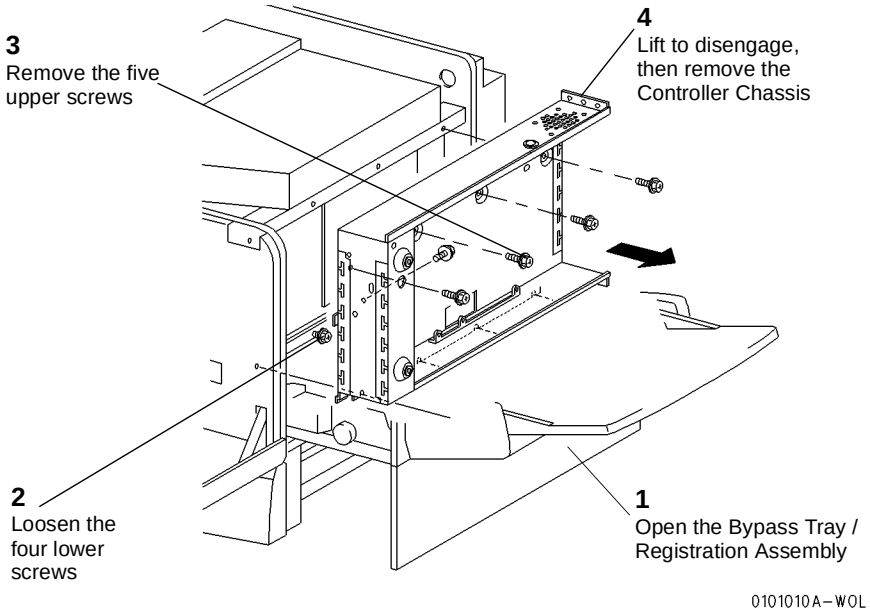


**Figure 1 Removing the Controller Chassis**

# REP 1.12 Communication PWB

## Parts List on PL 11.2

## Removal

**WARNING**

**To avoid personal injury or shock, do not perform repair activities with the power switch on or electrical power applied to the machine.**

1. Switch off the machine power and disconnect the machine Power Cord.
2. Remove the Bypass Tray / Registration Assembly (REP 8.10).
3. Remove the Communication PWB (Figure 1).

## Replacement

1. Reinstall the Communication PWB in the reverse order of removal.

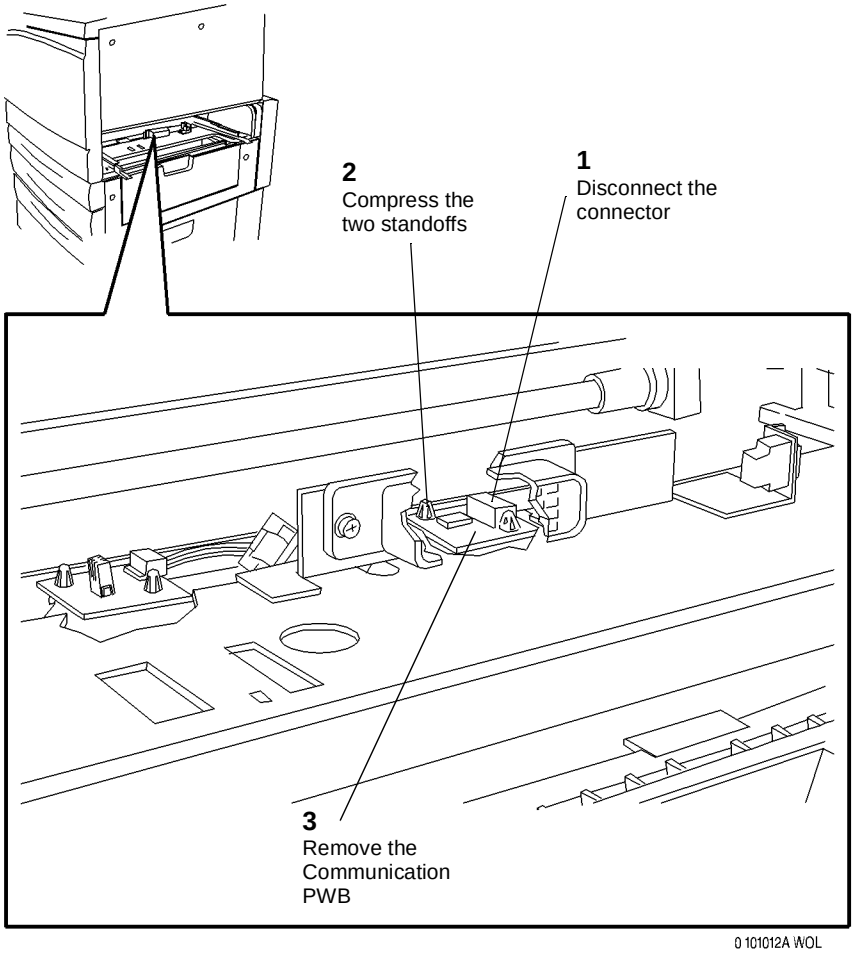


**Figure 1 Removing the Communication PWB**

# REP 1.13 Hard Disk Drive Assembly

## Parts List on PL 12.1

## Removal

**WARNING**

**To avoid personal injury or shock, do not perform repair activities with the power switch on or electrical power applied to the machine.**

1. Switch off the machine power and disconnect the machine Power Cord.
2. Remove the Right Cover (REP 14.9).
3. Remove the Hard Disk Drive Assembly.
   a. Disconnect the ribbon cable connector from the ESS PWB.
   b. Release the upper and lower tab locks.
   c. Slide the Hard Disk Drive Assembly toward the right, and remove the Hard Disk Drive Assembly.

## Replacement

1. Reinstall the Hard Disk Drive Assembly in the reverse order of removal.
2. Adjust the Hard Disk Drive Assembly (ADJ 3.1).

# REP 4.1 Paper Handling Drive Unit

## Parts List on PL 10.1

## Removal

**WARNING**

**To avoid personal injury or shock, do not perform repair activities with the power switch on or electrical power applied to the machine.**

1. Switch off the machine power and disconnect the machine Power Cord.
2. Remove the Rear Cover (REP 14.6).
3. Remove the HVPS (REP 1.2).
4. Remove the Drive Motor PWB (REP 4.5).
5. Remove the Paper Handling Motor (REP 4.4).
6. Remove the Paper Handling Drive Unit (Figure 1).

## Replacement

1. Reinstall the Paper Handling Drive Unit in the reverse order of removal.

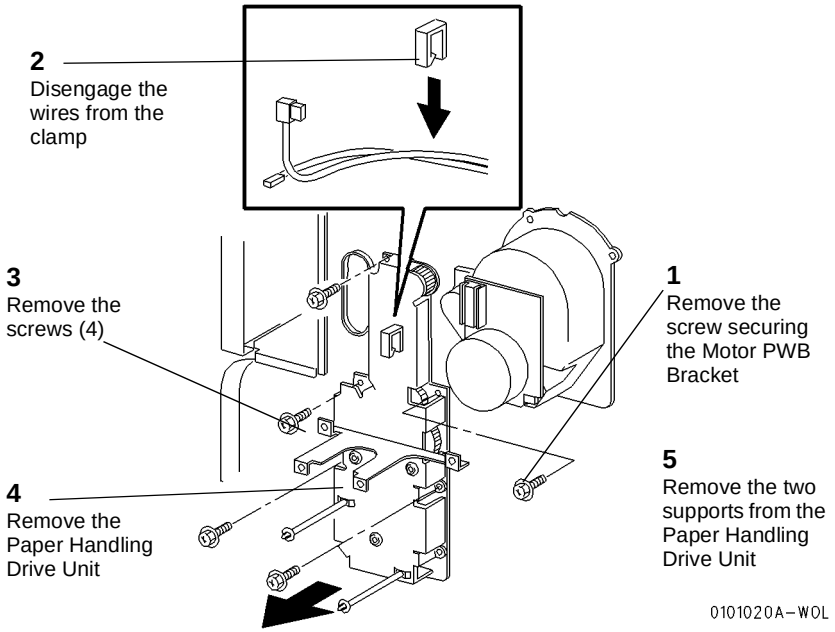


**Figure 1 Removing the Paper Handling Drive Unit**

# REP 4.2 Fuser Drive Unit

## Parts List on PL 10.1

## Removal

### WARNING

**To avoid personal injury or shock, do not perform repair activities with the power switch on or electrical power applied to the machine.**

1. Switch off the machine power and disconnect the machine Power Cord.
2. Remove the Rear Cover (REP 14.6).
3. Remove the Fuser Assembly (REP 10.1).
4. Remove the Fuser Motor (REP 4.3).
5. Remove the LVPS (REP 1.1).
6. Remove the Fuser Drive Unit (Figure 1).

## Replacement

**CAUTION**

*Be careful not to pinch the harness when reinstalling the Fuser Drive Unit.*

1. Reinstall the Fuser Drive Unit in the reverse order of removal.

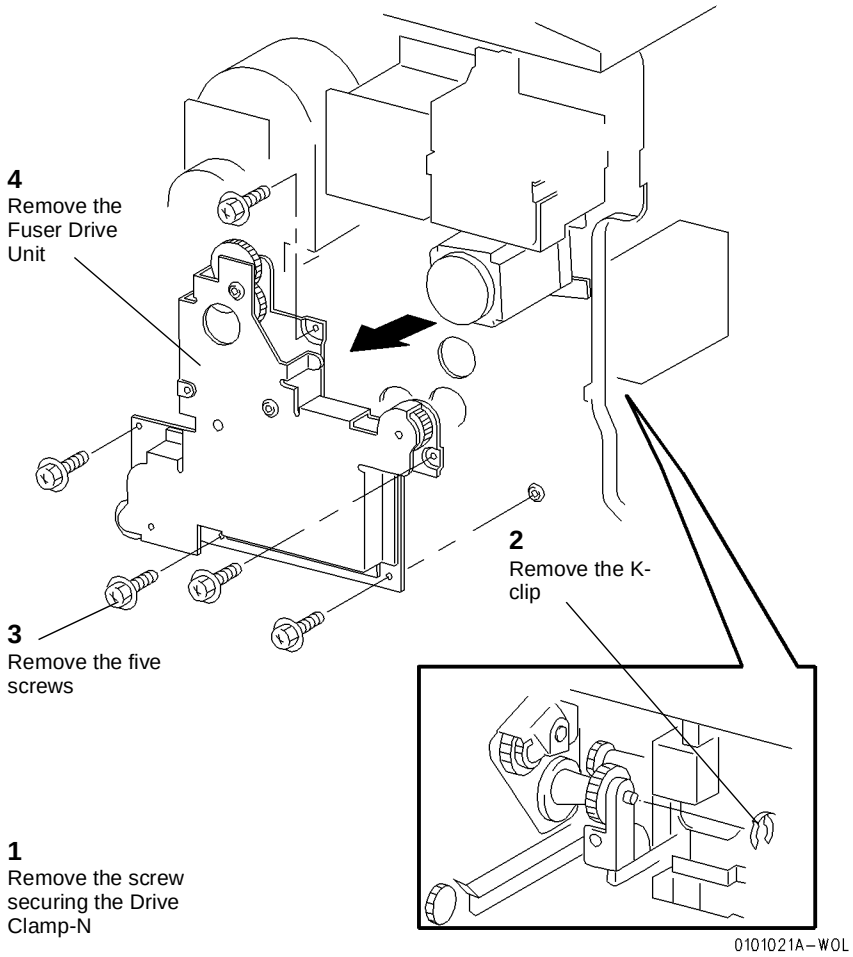


**Figure 1 Removing the Fuser Drive Unit**

# REP 4.3 Fuser Motor

## Parts List on PL 10.1

## Removal

### WARNING

**To avoid personal injury or shock, do not perform repair activities with the power switch on or electrical power applied to the machine.**

1. Switch off the machine power and disconnect the machine Power Cord.
2. Remove the Rear Cover (REP 14.6).
3. Remove the Fuser Motor (Figure 1).

## Replacement

1. Reinstall the Fuser Motor in the reverse order of removal.

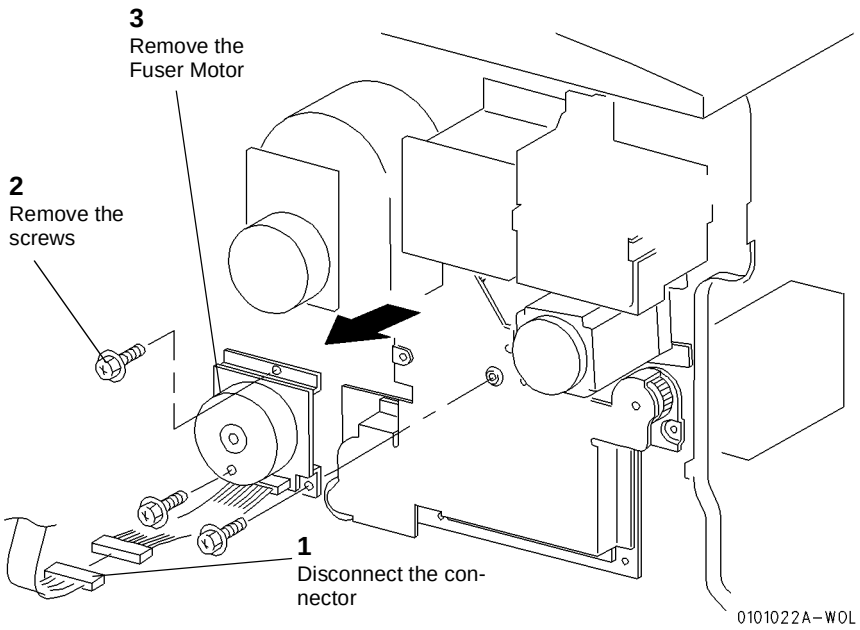


**Figure 1 Removing the Fuser Motor**

# REP 4.4 Paper Handling Motor

## Parts List on PL 10.1

## Removal

### WARNING

**To avoid personal injury or shock, do not perform repair activities with the power switch on or electrical power applied to the machine.**

1. Switch off the machine power and disconnect the machine Power Cord.
2. Remove the Rear Cover (REP 14.6).
3. Remove the Drive Motor PWB (REP 4.5).
4. Remove the Paper Handling Motor (Figure 1).

## Replacement

1. Reinstall the Paper Handling Motor in the reverse order of removal.

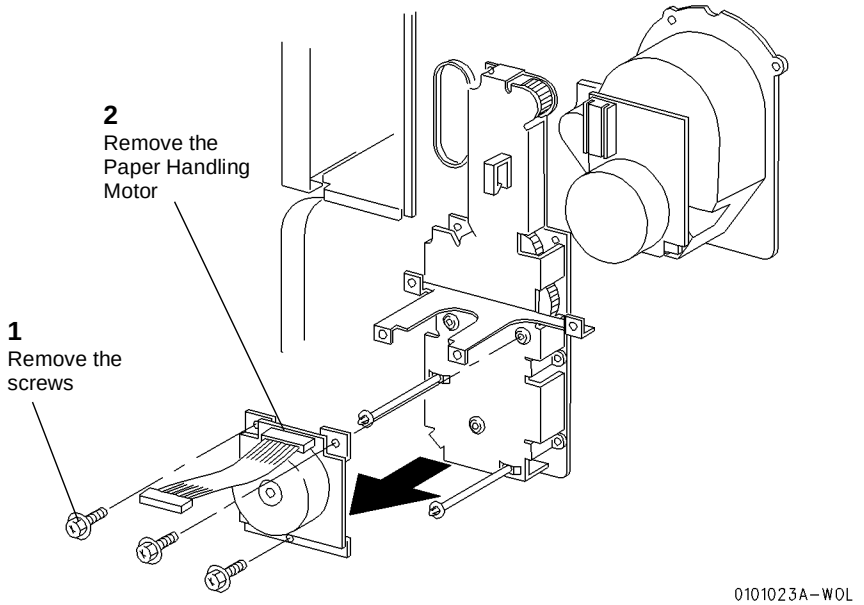


**Figure 1 Removing the Paper Handling Motor**

# REP 4.5 Drive Motor PWB

## Parts List on PL 10.1

## Removal

**WARNING**

**To avoid personal injury or shock, do not perform repair activities with the power switch on or electrical power applied to the machine.**

1. Switch off the machine power and disconnect the machine Power Cord.
2. Remove the Rear Cover (REP 14.6).
3. Remove the Drive Motor PWB (Figure 1).

## Replacement

1. Reinstall the Drive Motor PWB in the reverse order of removal.

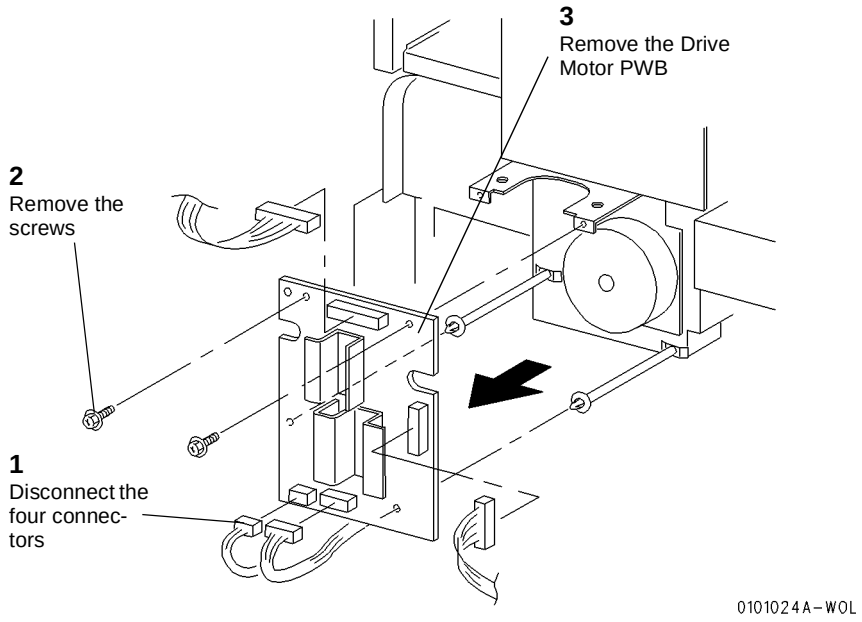


**Figure 1 Removing the Drive Motor PWB**

# REP 4.6 Process Drive Unit

## Parts List on PL 10.1

## Removal

### WARNING

**To avoid personal injury or shock, do not perform repair activities with the power switch on or electrical power applied to the machine.**

1. Switch off the machine power and disconnect the machine Power Cord.
2. Remove the Rear Cover (REP 14.6).
3. Remove the Process Drive Unit (Figure 1).

## Replacement

### CAUTION

*Failure to align the positioning boss of the printer frame with the positioning hole of the Process Drive Unit during the replacement could cause problems.*

1. Align the positioning boss of the printer frame with the positioning hole of the Process Drive Unit before securing the unit.

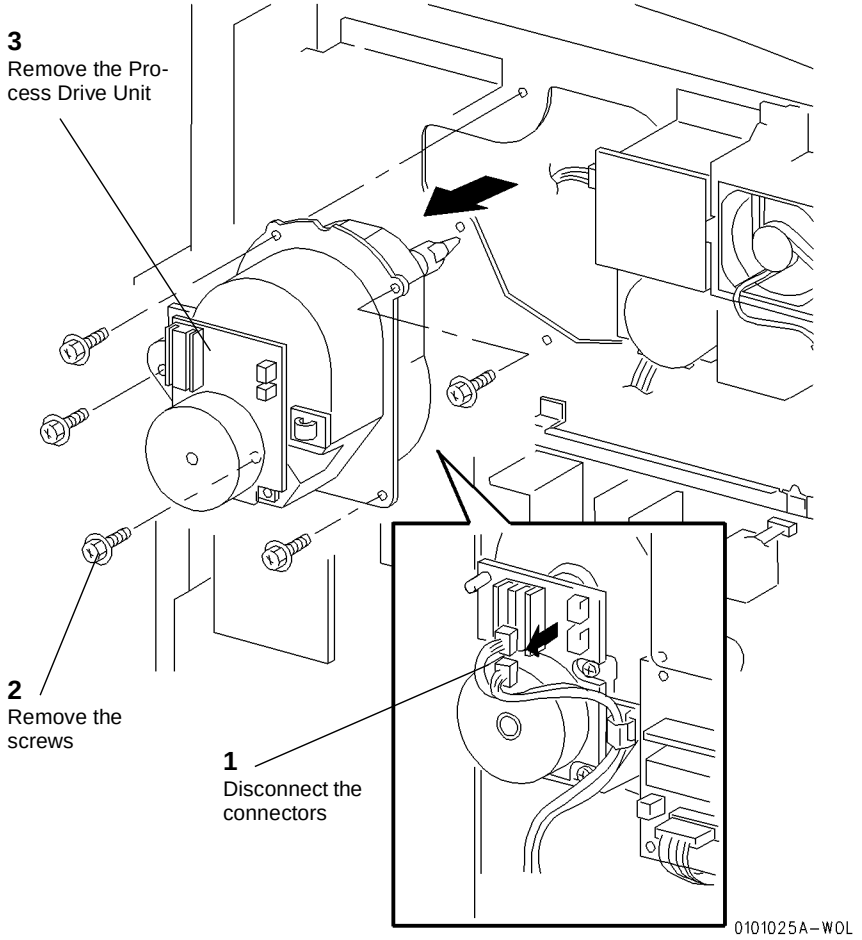


**Figure 1 Removing the Process Drive Unit**

# REP 4.7 Rotary Motor

## Parts List on PL 10.1

## Removal

### WARNING

**To avoid personal injury or shock, do not perform repair activities with the power switch on or electrical power applied to the machine.**

1. Switch off the machine power and disconnect the machine Power Cord.
2. Remove the Rear Cover (REP 14.6).
3. Remove the Rotary Motor (Figure 1).

## Replacement

**CAUTION**

*Be careful not to pinch the harness when reinstalling the Rotary Motor.*

1. Reinstall the Rotary Motor in the reverse order of removal.

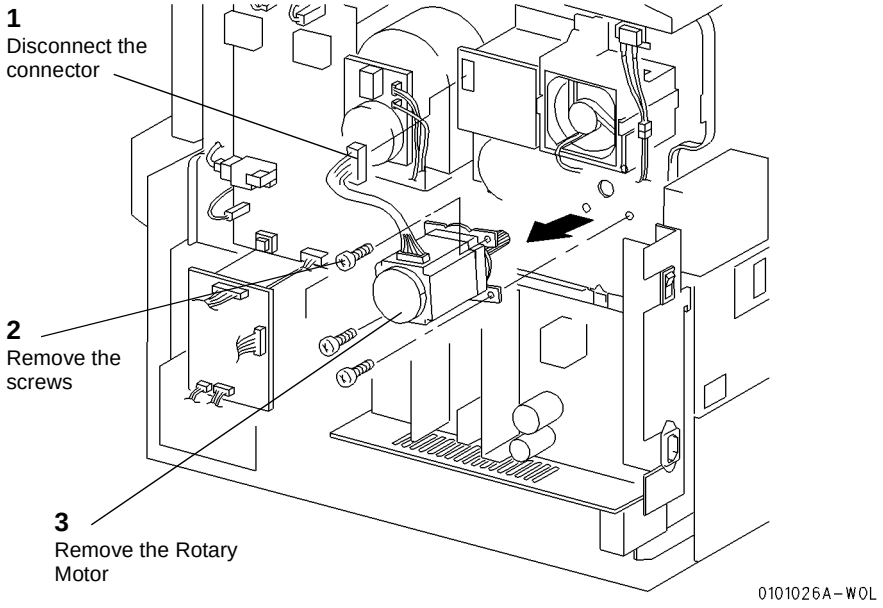


**Figure 1 Removing the Rotary Motor**

# REP 4.8 Rotary Motor PWB

## Parts List on PL 10.1

## Removal

### WARNING

**To avoid personal injury or shock, do not perform repair activities with the power switch on or electrical power applied to the machine.**

1. Switch off the machine power and disconnect the machine Power Cord.
2. Remove the Rear Cover (REP 14.6).

**CAUTION**

*The Rotary Motor PWB and printer remain connected by a harness. Be careful not to pull too far apart while performing the removal steps.*

3. Remove the Rotary Motor PWB (Figure 1).

## Replacement

1. Reinstall the Rotary Motor PWB in the reverse order of removal.

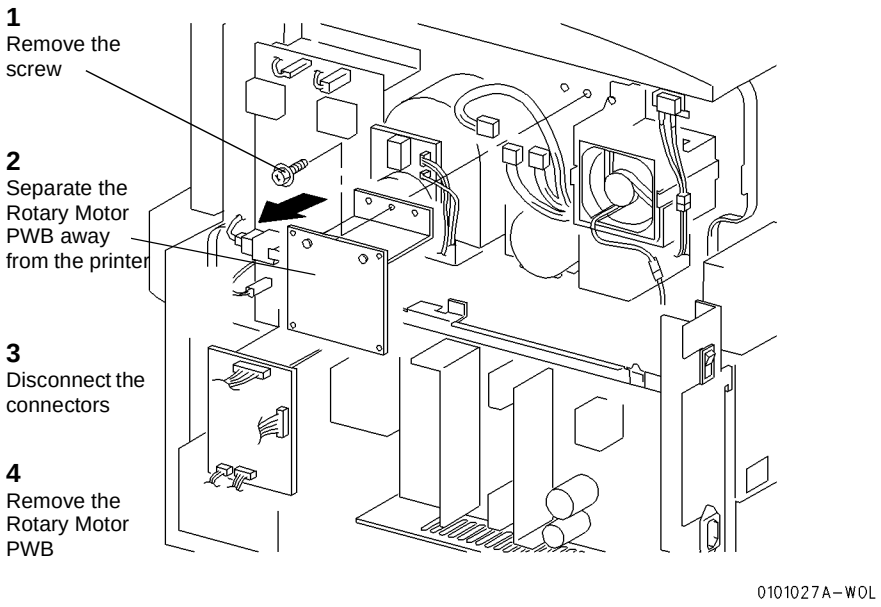


**Figure 1 Removing the Rotary Motor PWB**

# REP 4.9 Dispense Clutch

## Parts List on PL 10.1

## Removal

### WARNING

**To avoid personal injury or shock, do not perform repair activities with the power switch on or electrical power applied to the machine.**

1. Switch off the machine power and disconnect the machine Power Cord.
2. Remove the Rear Cover (REP 14.6).
3. Remove the Fuser Motor (REP 4.3).
4. Remove the Rotary Motor PWB (REP 4.8).
5. Remove the Dispense Clutch (Figure 1).

## Replacement

1. Reinstall the Dispense Clutch in the reverse order of removal.

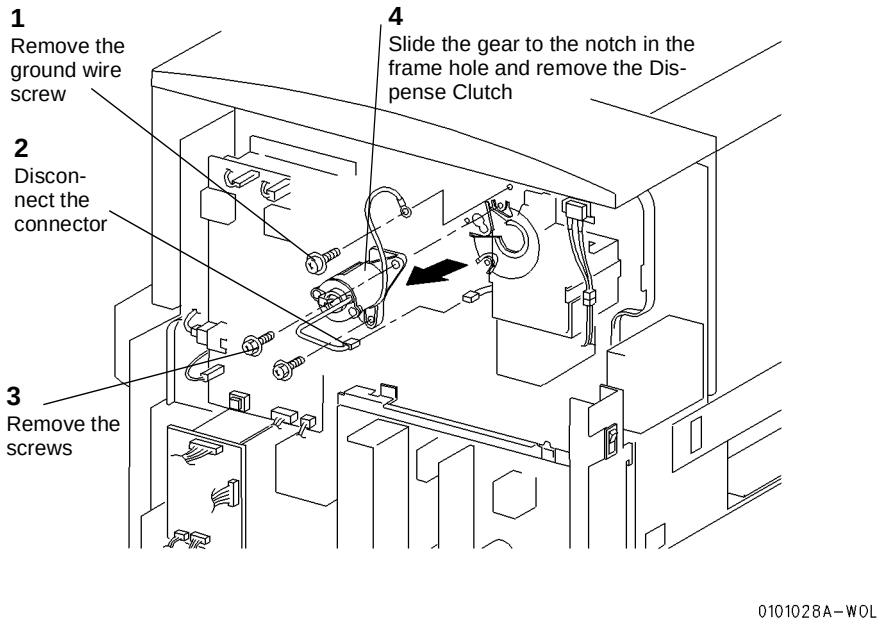


**Figure 1 Removing the Dispense Clutch**

# REP 4.10 Developer Clutch

## Parts List on PL 10.1

## Removal

### WARNING

**To avoid personal injury or shock, do not perform repair activities with the power switch on or electrical power applied to the machine.**

1. Switch off the machine power and disconnect the machine Power Cord.
2. Remove the Rear Cover (REP 14.6).
3. Remove the Fuser Assembly (REP 10.1).
4. Remove the Fuser Motor (REP 4.3).
5. Remove the Rotary Motor PWB (REP 4.8).
6. Remove the LVPS (REP 1.1).
7. Remove the Fuser Drive Unit (REP 4.2).
8. Remover the Developer Clutch (Figure 1).

## Replacement

1. Reinstall the Developer Clutch in the reverse order of removal.

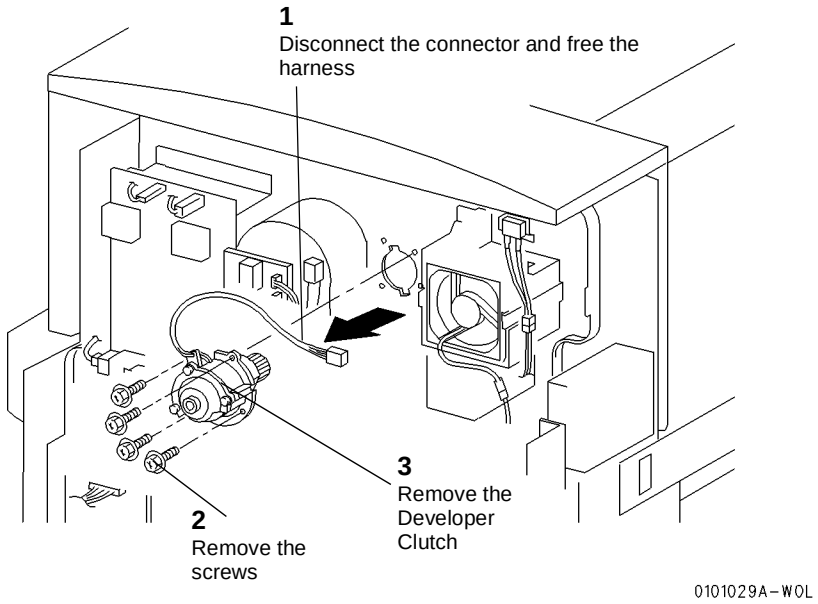


**Figure 1 Removing the Developer Clutch**

# REP 5.1 ADF Assembly

## Parts List on PL 17.1

## Removal

### WARNING

**To avoid personal injury or shock, do not perform repair activities with the power switch on or electrical power applied to the machine.**

1. Switch off the machine power and disconnect the machine Power Cord.
2. Disconnect the ADF connector at the rear of the scanner.

### WARNING

**The ADF Assembly weighs about 11kg. Assistance may be required to move or remove the ADF. Attempting to move the ADF without assistance could result in serious injury.**

**CAUTION**

*Handle the ADF by the front and rear sides. Handling the assembly by the left and right sides will cause the ADF frame to be deformed.*

**CAUTION**

*After the ADF is removed, orient the unit on a work surface, so the ADF weight is not applied directly to the counter balances. Otherwise, the ADF frame could be deformed.*

3. Remove the ADF Assembly. (Figure 1)

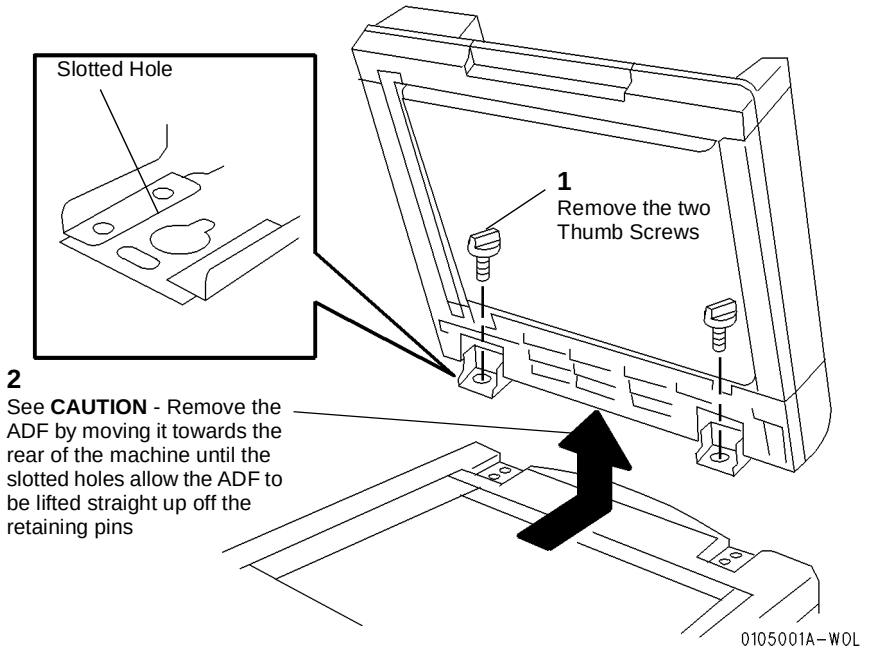
Slotted Hole
1
Remove the two Thumb Screws
2
See **CAUTION** - Remove the ADF by moving it towards the rear of the machine until the slotted holes allow the ADF to be lifted straight up off the retaining pins
0105001A-WOL

**Figure 1 Removing the ADF**

## Replacement

1. Perform the procedure for removal in reverse.
2. Perform an ADF Side Registration adjustment (ADJ 5.1)
3. Perform an ADF Lead Edge Registration adjustment (ADJ 5.2)
4. Perform an ADF Height adjustment (ADJ 5.3)
5. Perform an ADF Front-to-rear Positioning adjustment (ADJ 5.4)

# REP 5.2 ADF Drive Motor

## Parts List on PL 17.2

## Removal

### WARNING

**To avoid personal injury or shock, do not perform repair activities with the power switch on or electrical power applied to the machine.**

1. Switch off the machine power and disconnect the machine Power Cord.
2. Remove the ADF Rear Cover.
3. Remove the ADF Drive Motor. (Figure 1)

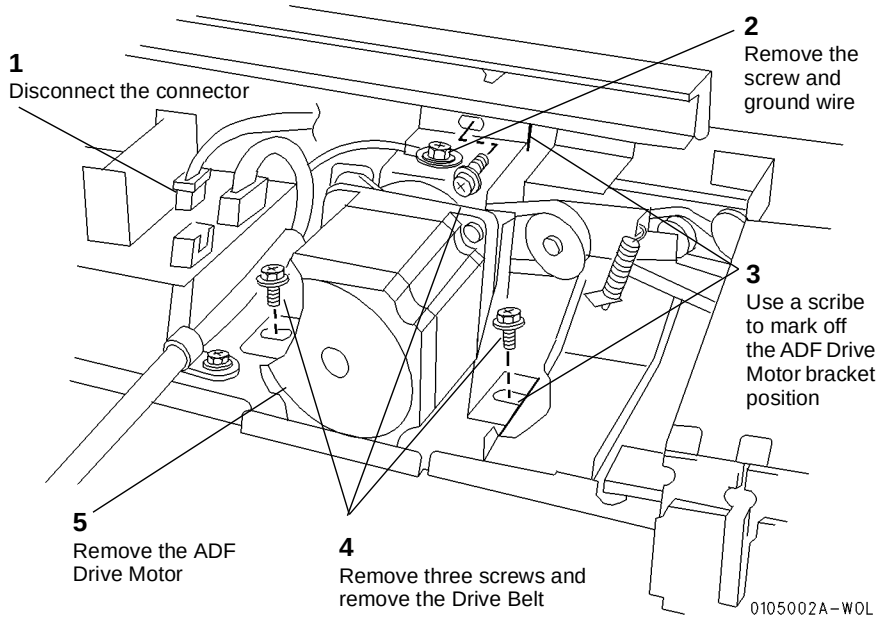


**Figure 1 Removing the ADF Drive Motor**

## Replacement

1. Perform the procedure for removal in reverse.
2. Install the motor, using the previously scribed marks to set the proper belt tension.

# REP 5.3 Counterbalance

## Parts List on PL 17.2

## Removal

### WARNING

**To avoid personal injury or shock, do not perform repair activities with the power switch on or electrical power applied to the machine.**

### CAUTION

*Different loads are applied to each side of the ADF. For this reason, the Counterbalance parts are unique for each side. When replacing the Counterbalances, do not mix the left Counterbalance parts with the right.*

***NOTE:*** Replacement steps are identical for both the left and the right sides of the Counterbalance.

1. Switch off the machine power and disconnect the machine Power Cord.
2. Remove the ADF Assembly. (REP 5.1)
3. Remove the ADF Rear Cover.
4. Remove the Counterbalance. (Figure 1)

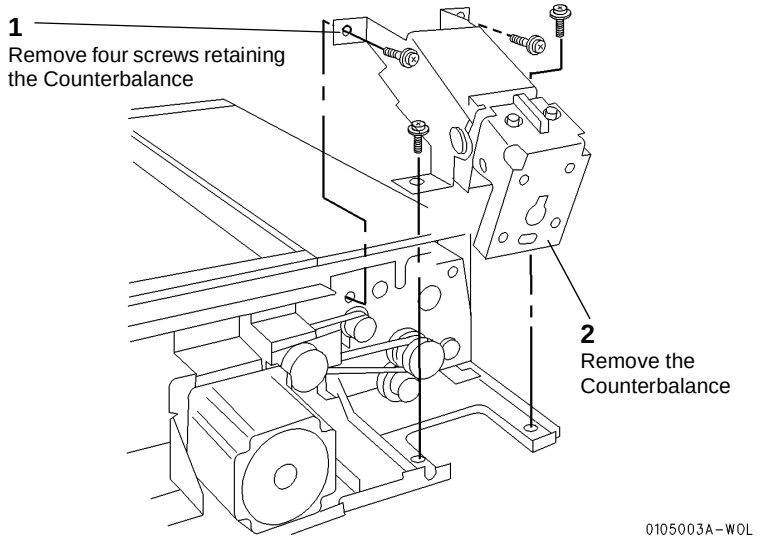


**Figure 1 Removing the Counterbalance**

## Replacement

1. Perform the procedure for removal in reverse.
2. Perform an ADF Side Registration adjustment. (ADJ 5.1)
3. Perform an ADF Lead Edge Registration adjustment. (ADJ 5.2)
4. Perform an ADF Height adjustment. (ADJ 5.3)

# REP 5.4 Feed Roll

## Parts List on PL 17.3

## Removal

### WARNING

**To avoid personal injury or shock, do not perform repair activities with the power switch on or electrical power applied to the machine.**

1. Switch off the machine power and disconnect the machine Power Cord.
2. Remove the ADF Front Cover.
3. Remove the ADF Rear Cover.
4. Remove the Lower Chute. (Figure 1)

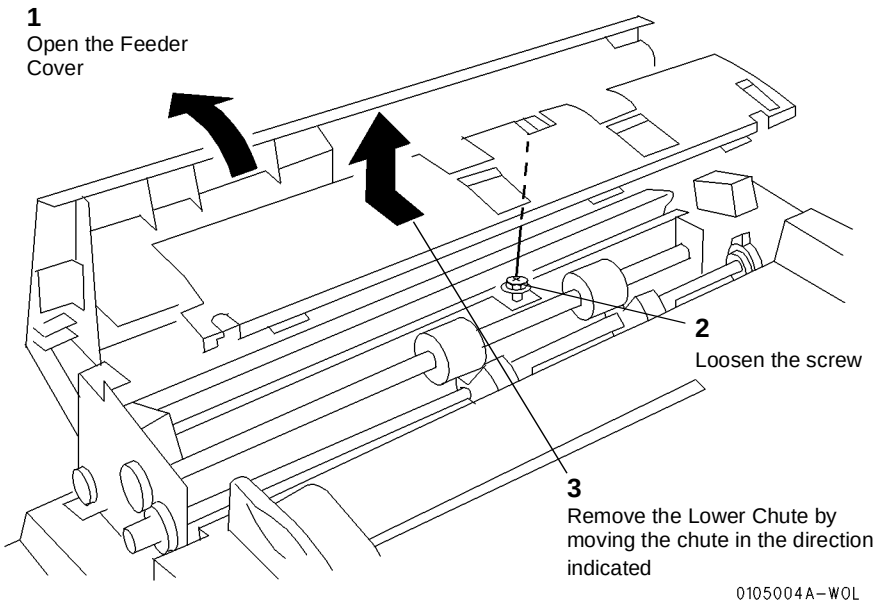


**Figure 1 Removing the Lower Chute**

5. Remove the Feed Roll. (Figure 2)

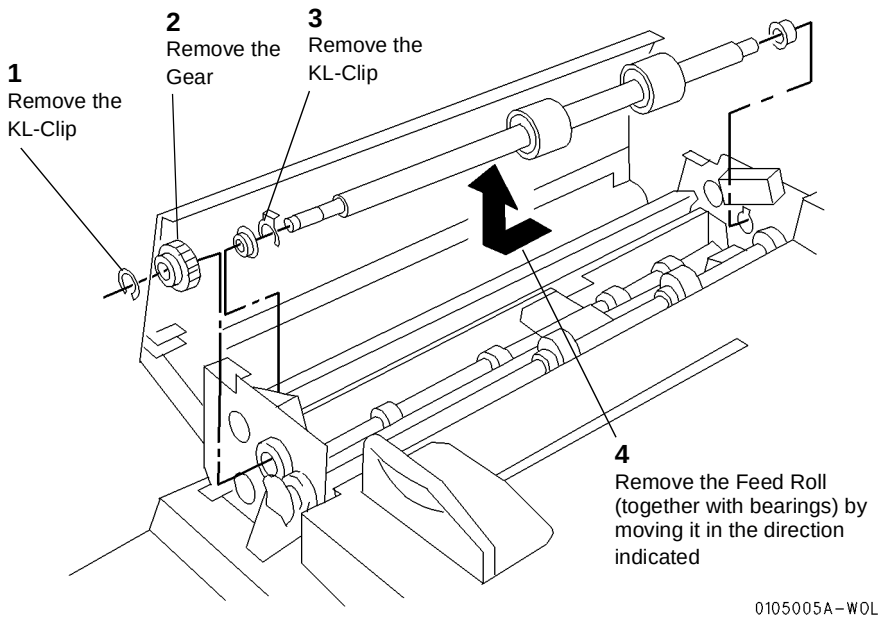


**Figure 2 Removing the Feed Roll**

## Replacement

1. Perform the procedure for removal in reverse. During replacement, pay close attention to the following step.
2. The One Way Clutch is attached to the Gear. Install the Gear so that the shaft rotates freely in counterclockwise (CCW) direction, and it is locked in the clockwise (CW) direction. (Figure 3)

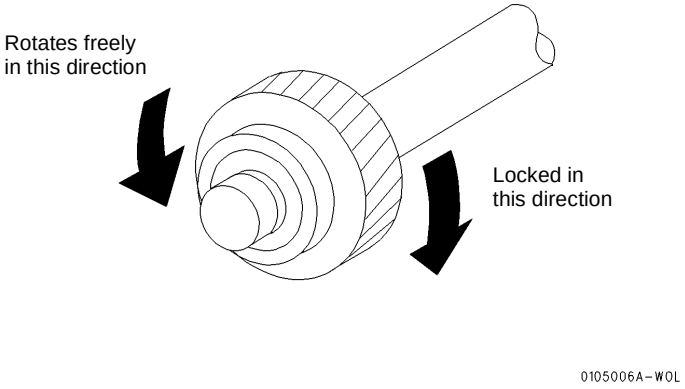


**Figure 3 One Way Clutch Rotation**

# REP 5.5 Nudger Roll

## Parts List on PL 17.3

## Removal

### WARNING

**To avoid personal injury or shock, do not perform repair activities with the power switch on or electrical power applied to the machine.**

1. Switch off the machine power and disconnect the machine Power Cord.
2. Remove the ADF Front Cover.
3. Remove the ADF Rear Cover.
4. Reduce the tension of Nudger/Feed Roll Drive Belt. (Figure 1)

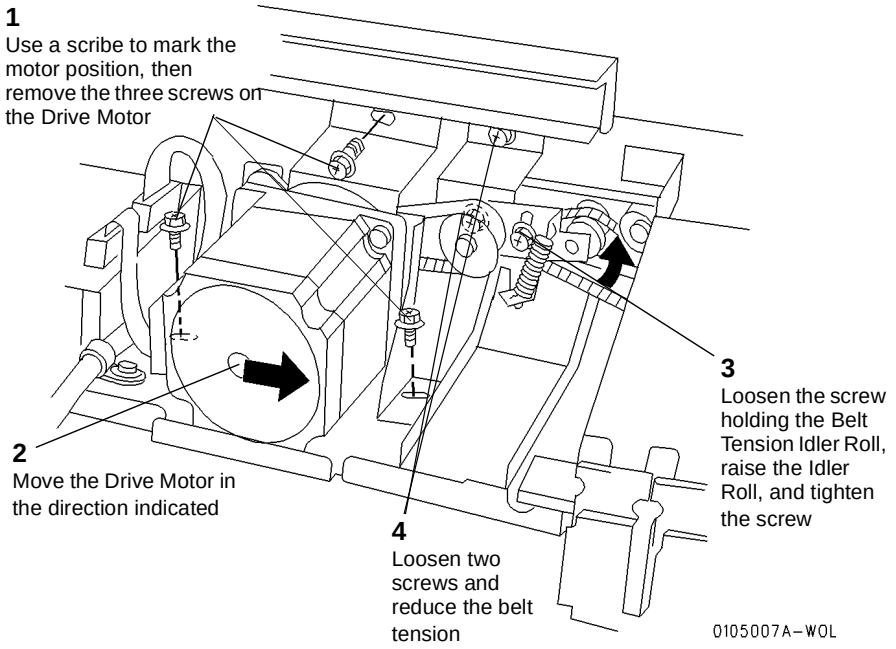
1
Use a scribe to mark the motor position, then remove the three screws on the Drive Motor
2
Move the Drive Motor in the direction indicated
3
Loosen the screw holding the Belt Tension Idler Roll, raise the Idler Roll, and tighten the screw
4
Loosen two screws and reduce the belt tension
0105007A-WOL

**Figure 1 Reducing Drive Belt Tension**

5. Remove the Lower Chute. (Figure 2)

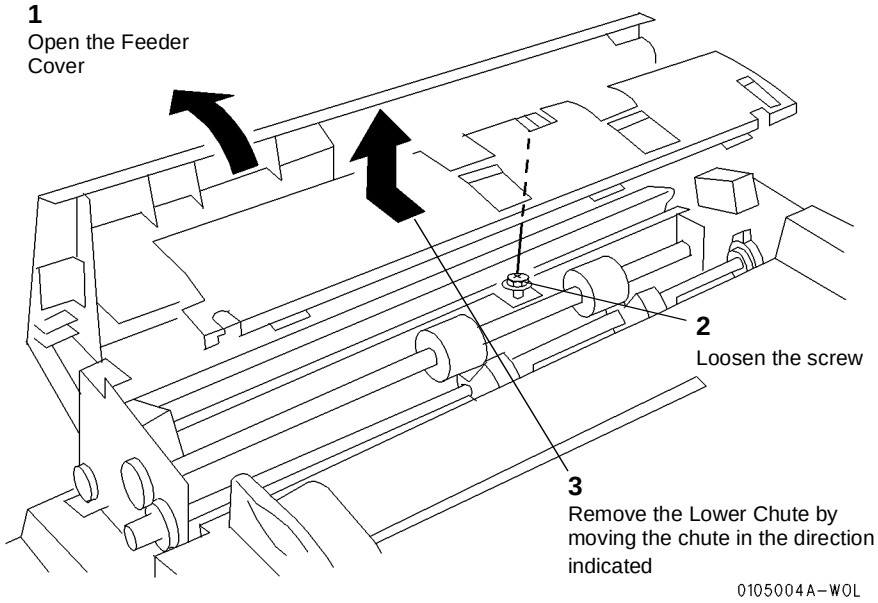


**Figure 2 Removing the Lower Chute**

6. Remove the Nudger Roll Assembly parts. (Figure 3)

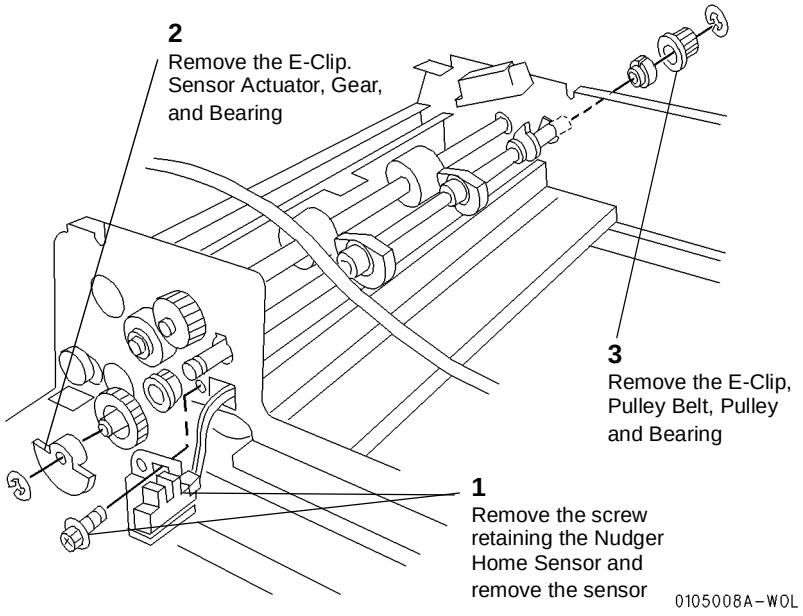
2
Remove the E-Clip. Sensor Actuator, Gear, and Bearing
3
Remove the E-Clip, Pulley Belt, Pulley and Bearing
1
Remove the screw retaining the Nudger Home Sensor and remove the sensor
0105008A-WOL

**Figure 3 Removing Nudger Roll Retaining Parts**

7. Remove the Nudger Roll. (Figure 4)

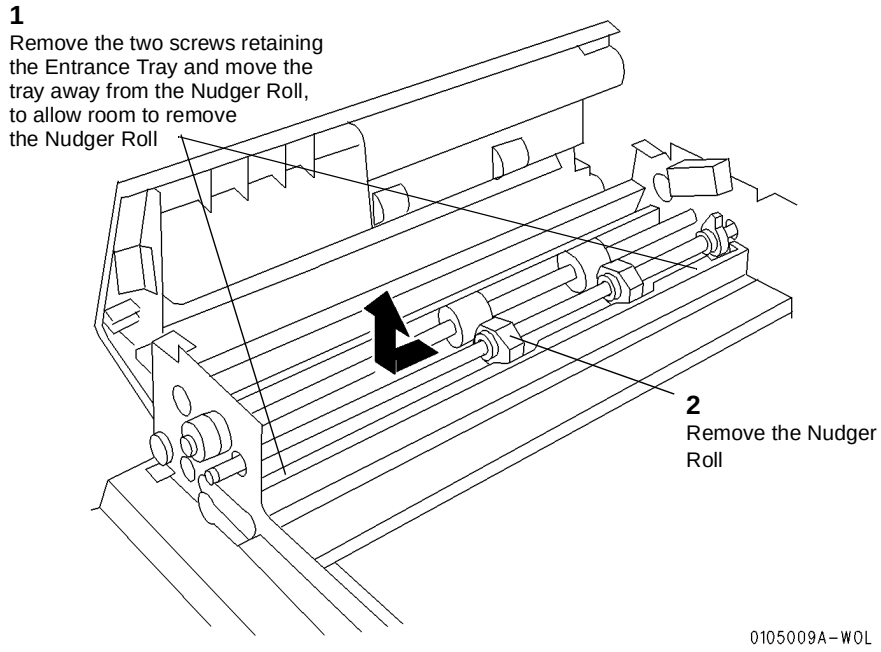
1
Remove the two screws retaining the Entrance Tray and move the tray away from the Nudger Roll, to allow room to remove the Nudger Roll
2
Remove the Nudger Roll
0105009A-WOL

**Figure 4 Removing the Nudger Roll**

## Replacement

1. Perform the procedure for removal in reverse. Pay close attention to the following step.
2. The One Way Clutch is attached to the Pulley at the rear end of shaft. Install the shaft so it rotates freely in CCW direction, and it is locked in CW direction. (Figure 5)

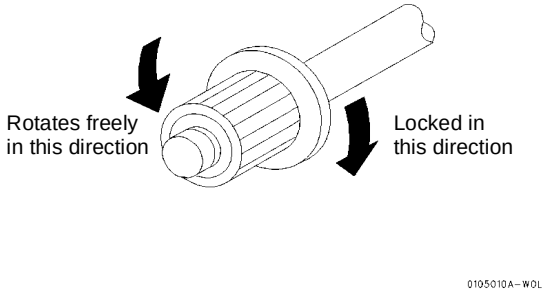


**Figure 5 One Way Clutch Rotation**

# REP 5.6 Registration Roll

## Parts List on PL 17.3

## Removal

### WARNING

**To avoid personal injury or shock, do not perform repair activities with the power switch on or electrical power applied to the machine.**

1. Switch off the machine power and disconnect the machine Power Cord.
2. Remove the ADF Front Cover and Rear Cover
3. Remove the Document Transport Assembly. (REP 5.7)
4. Remove the ADF Assembly from the scanner. (REP 5.1)
5. Remove the Feeder Lower Cover. (Figure 1)

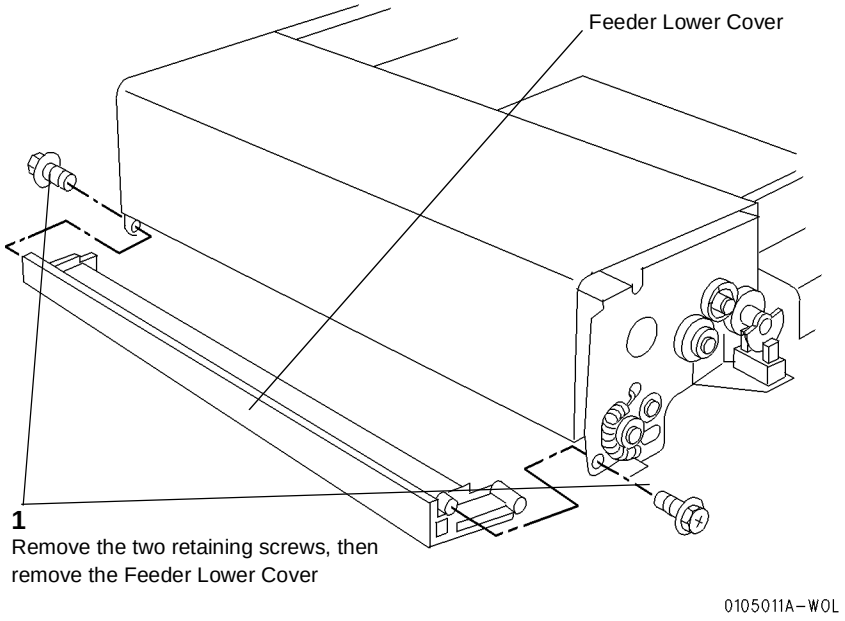


**Figure 1 Removing the Feeder Lower Cover**

6. Remove the left Counterbalance. (REP 5.3)
7. Remove the ADF Registration Roll Drive Pulley/Gear (Figure 2)

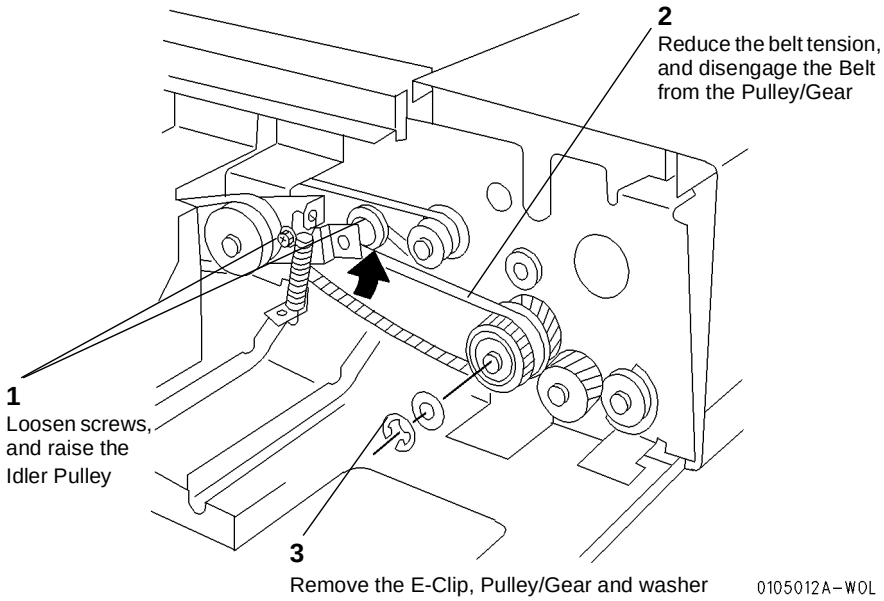
2
Reduce the belt tension, and disengage the Belt from the Pulley/Gear
1
Loosen screws, and raise the Idler Pulley
3
Remove the E-Clip, Pulley/Gear and washer
0105012A-WOL

**Figure 2 Removing the Drive Pulley/Gear**

8. Move the Registration Pinch Roll away from the Registration Roll.

**CAUTION**

*Tension Springs are of different strengths for the front and rear. Be careful not to mix the front and rear springs when removing them from the Registration Roll. (The front spring is the stronger (thicker) spring.)*

9. Remove the Registration Roll. (Figure 3)

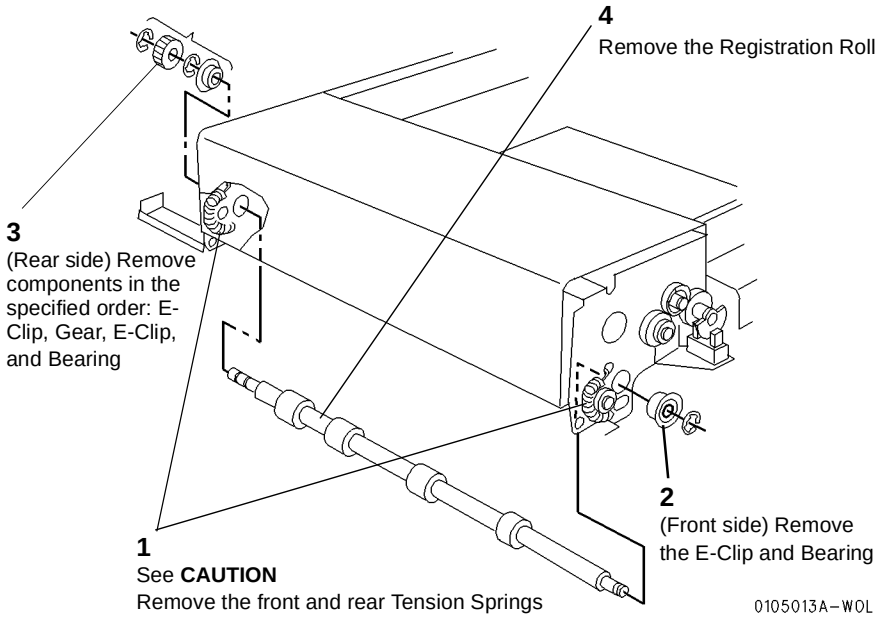


**Figure 3 Removing the Registration Roll**

## Replacement

1. Perform the procedure for removal in reverse.
2. Perform an ADF Side Registration adjustment (ADJ 5.1)
3. Perform an ADF Lead Edge Registration adjustment (ADJ 5.2)

# REP 5.7 Document Transport Assembly

## Parts List on PL 17.6

## Removal

### WARNING

**To avoid personal injury or shock, do not perform repair activities with the power switch on or electrical power applied to the machine.**

1. Switch off the machine power and disconnect the machine Power Cord.
2. Remove the ADF Front Cover.
3. Remove the Document Transport Assembly. (Figure 1)

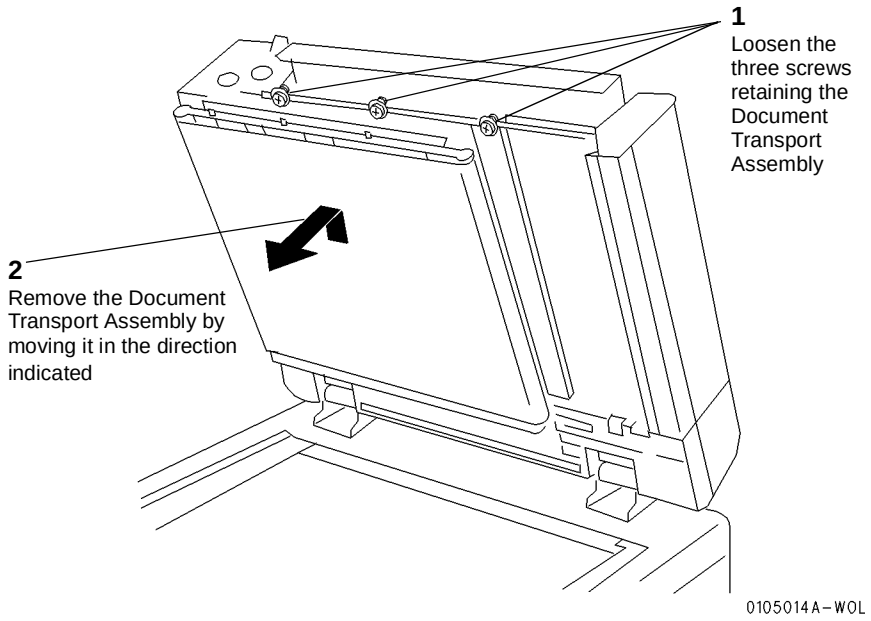
1
Loosen the three screws retaining the Document Transport Assembly
2
Remove the Document Transport Assembly by moving it in the direction indicated
0105014A-WOL

**Figure 1 Removing the Document Transport Assembly**

## Replacement

1. Perform the procedure for removal in reverse.
2. Perform an ADF Front-to-rear Positioning adjustment (ADJ 5.4)

# REP 5.8 Platen Belt

## Parts List on PL 17.6

## Removal

### WARNING

**To avoid personal injury or shock, do not perform repair activities with the power switch on or electrical power applied to the machine.**

1. Switch off the machine power and disconnect the machine Power Cord.
2. Remove the ADF Front Cover.
3. Remove the Document Transport Assembly. (REP 5.7)
4. Remove the Platen Belt. (Figure 1)

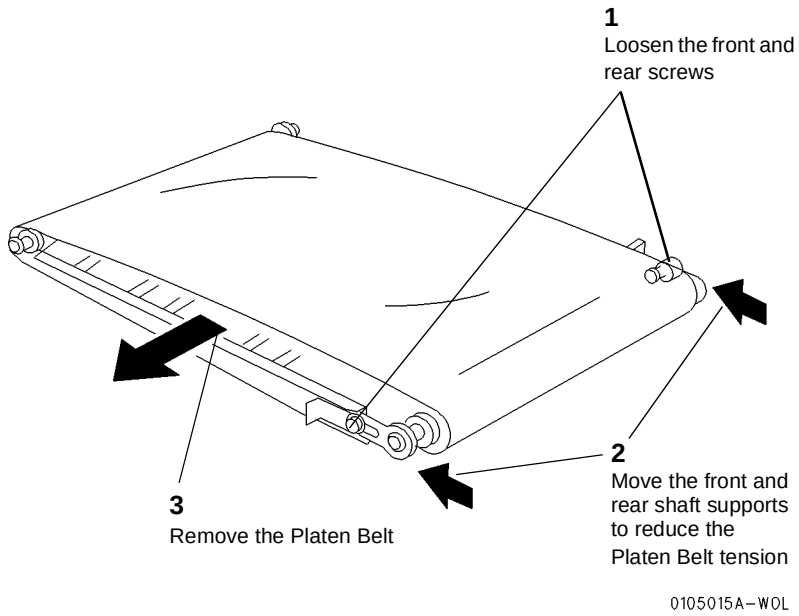


**Figure 1 Removing the Platen Belt**

## Replacement

1. Perform the procedure for removal in reverse. Pay close attention to the following steps.
2. Align the Shaft Support (Figure 2)

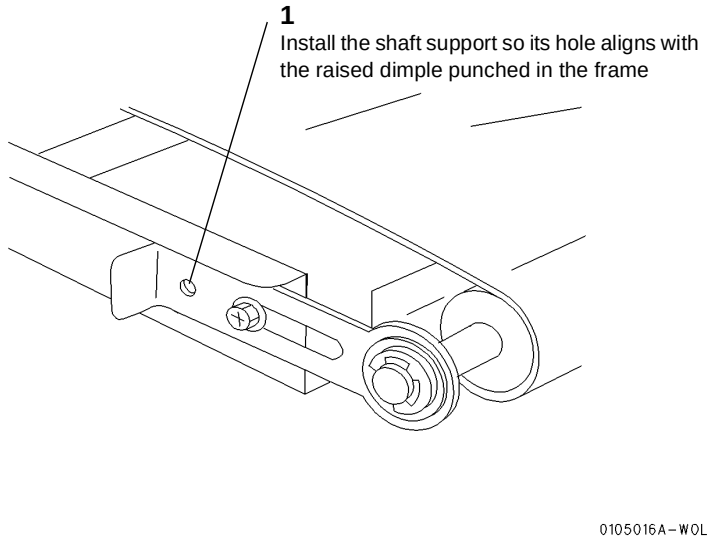


**Figure 2 Alignment of the Shaft Support**

3. Both sides of Platen Belt must be set in Pulleys as shown in Figure 3.

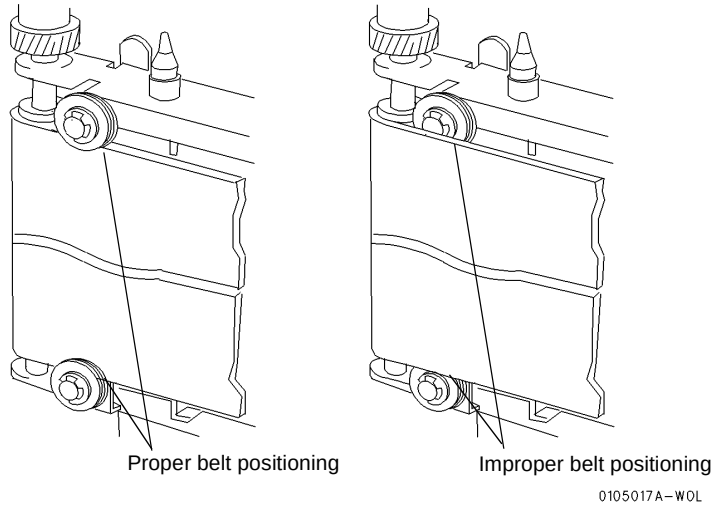


**Figure 3 Proper Alignment of the Platen Belt**

# REP 5.9 ADF Exit Motor

## Parts List on PL 17.7

## Removal

### WARNING

**To avoid personal injury or shock, do not perform repair activities with the power switch on or electrical power applied to the machine.**

1. Switch off the machine power and disconnect the machine Power Cord.
2. Remove the ADF Front Cover and Rear Cover.
3. Remove the ADF Exit Motor. (Figure 1)

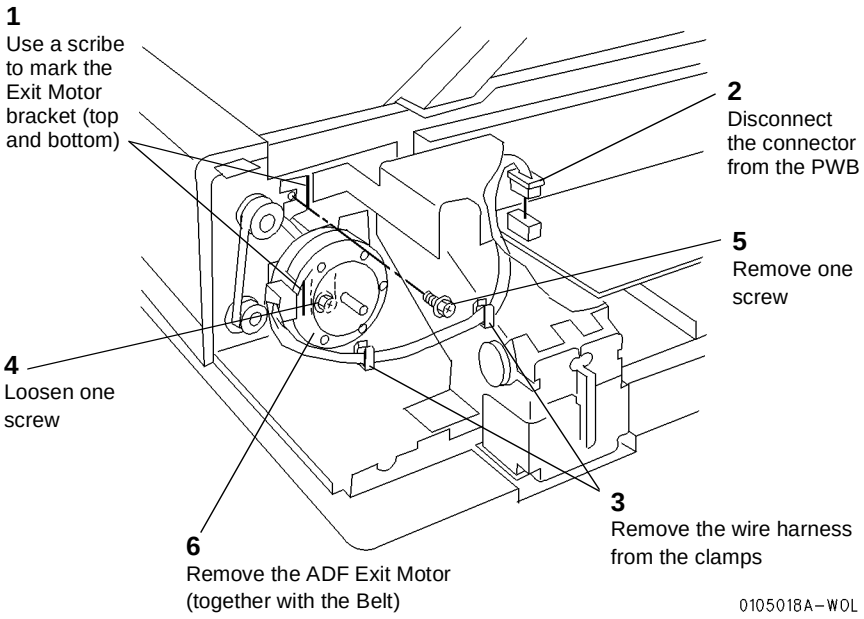


**Figure 1 Removing the ADF Exit Motor**

## Replacement

1. Perform the procedure for removal in reverse. Pay close attention to the following steps.
2. Install the motor by aligning the previously scribed mark.
3. Make sure that the belt is properly engaged with the pulley and drive gear.

# REP 5.10 ADF Exit Sensor and Exit Tray Interlock

## Parts List on PL 17.7

## Removal

### WARNING

**To avoid personal injury or shock, do not perform repair activities with the power switch on or electrical power applied to the machine.**

1. Switch off the machine power and disconnect the machine Power Cord.
2. Remove the ADF Front Cover and Rear Cover.
3. Remove the Outer Exit Chute Assembly. (Figure 1)

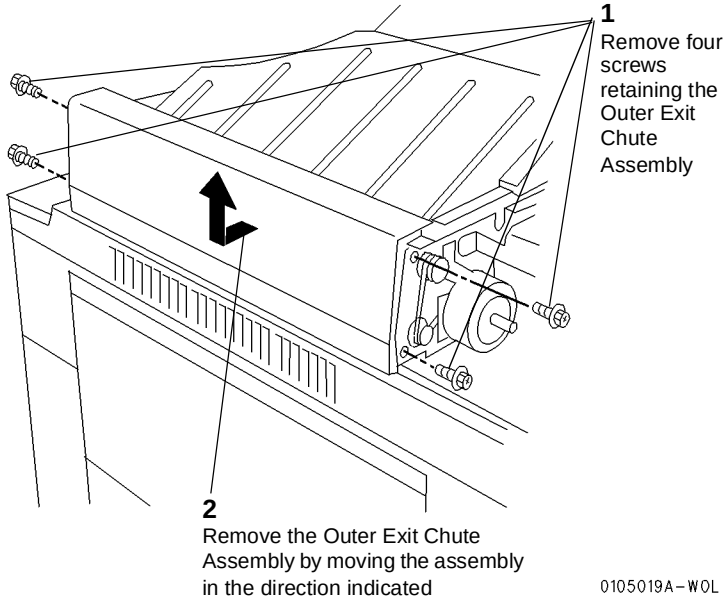
1
Remove four screws retaining the Outer Exit Chute Assembly
2
Remove the Outer Exit Chute Assembly by moving the assembly in the direction indicated
0105019A-WOL

**Figure 1 Removing the Outer Exit Chute Assembly**

4. Remove the Exit Chute. (Figure 2)

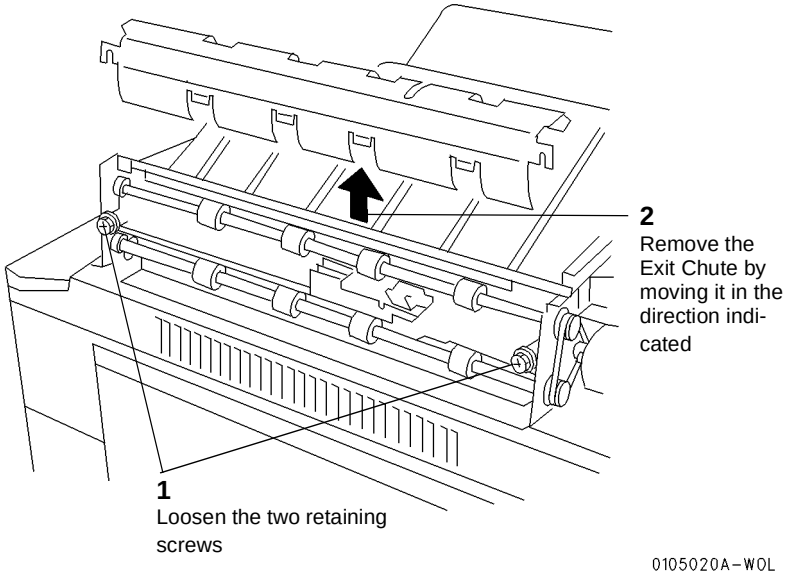


**Figure 2 Removing the Exit Chute**

5. Remove the Exit Tray Interlock or ADF Exit Sensor. (Figure 3)

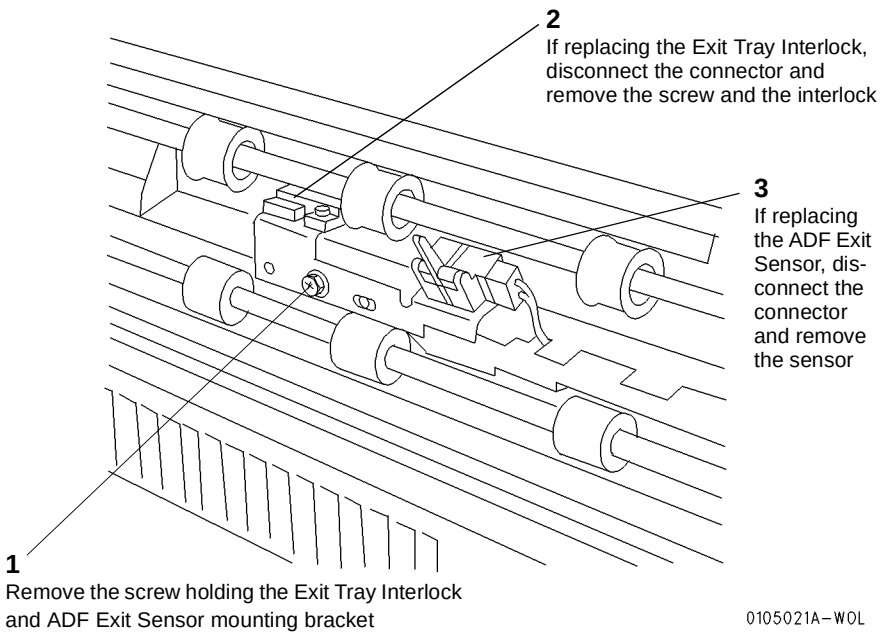
2
If replacing the Exit Tray Interlock, disconnect the connector and remove the screw and the interlock
3
If replacing the ADF Exit Sensor, disconnect the connector and remove the sensor
1
Remove the screw holding the Exit Tray Interlock and ADF Exit Sensor mounting bracket
0105021A-WOL

**Figure 3 Removing the Exit Tray Interlock or ADF Exit Sensor**

## Replacement

1. Perform the procedure for removal in reverse. Pay close attention to the following step
2. When replacing the Outer Exit Chute Assembly, tighten the screws while holding the chute edge in arrow direction indicated in Figure 4.

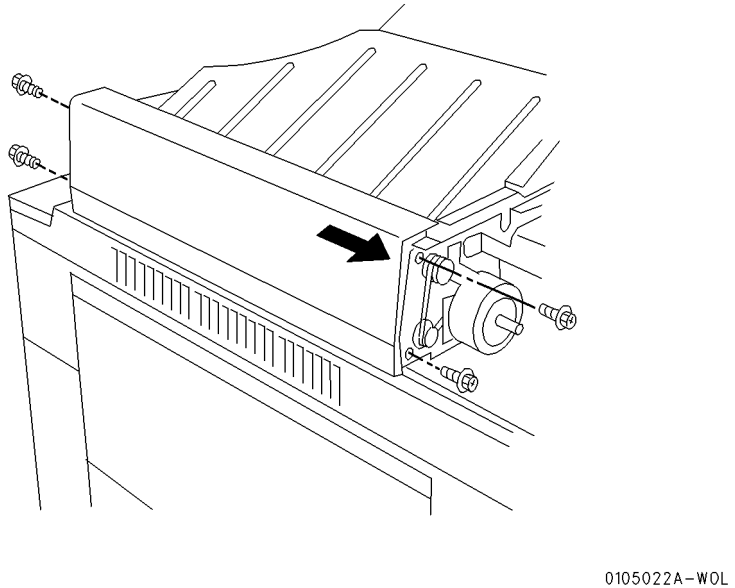


**Figure 4 Replacing the Outer Exit Chute Assembly.**

# REP 6.1 Platen Glass

## Parts List on PL 16.1

## Removal

1. Remove the ADF (REP 5.1) or Platen Cover.
2. Remove the Platen Glass (Figure 1).

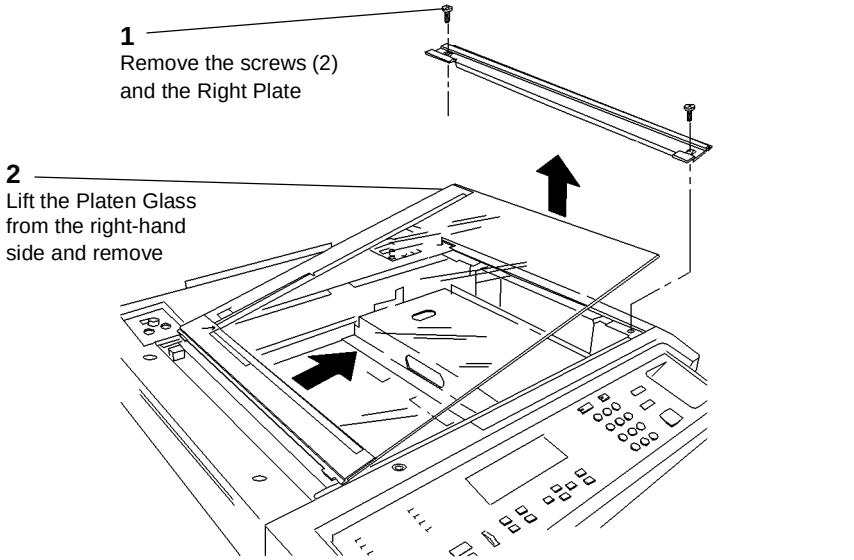


**Figure 1 Removing the Platen Glass**

## Replacement

1. Perform the procedure for removal in reverse.

# REP 6.2 Right Cover

## Parts List on PL 16.6

## Removal

1. Remove the Right Cover (Figure 1).

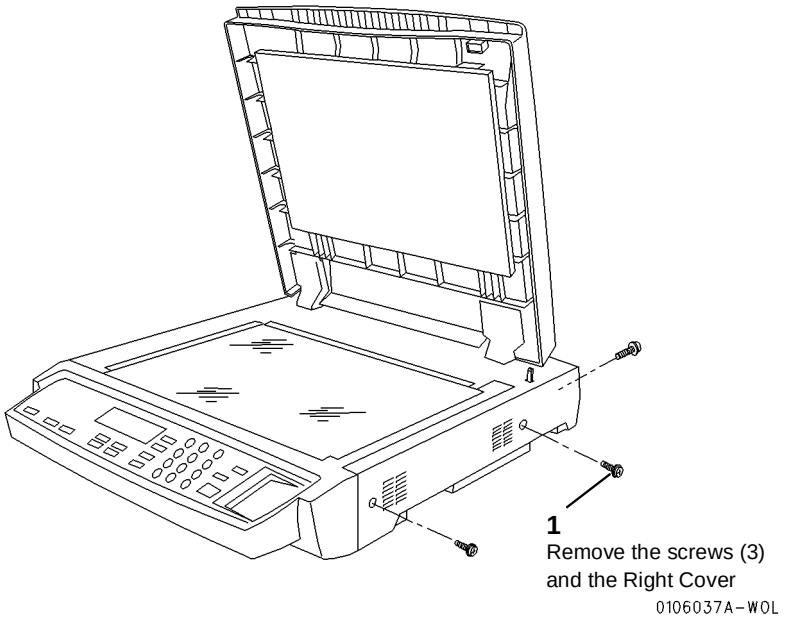


**Figure 1 Removing the Right Cover**

## Replacement

1. Perform the procedure for removal in reverse.

# REP 6.3 Left Cover

## Parts List on PL 16.6

## Removal

1. Remove the Left Cover (Figure 1).

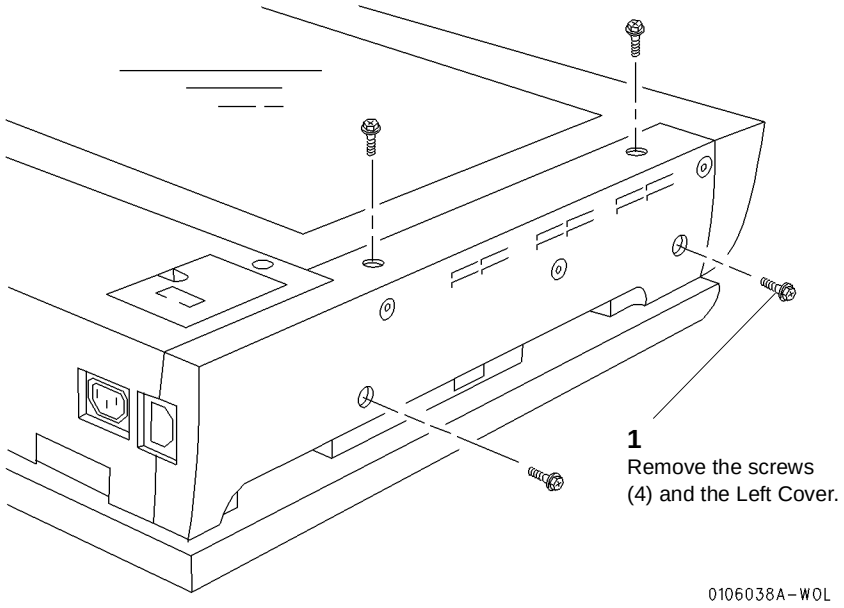


**Figure 1 Removing the Left Cover**

## Replacement

1. Perform the procedure for removal in reverse.

# REP 6.4 Rear Cover

## Parts List on PL 16.6

## Removal

1. Remove the ADF (REP 5.1) or Platen Cover.
2. Remove the Rear Cover (Figure 1).

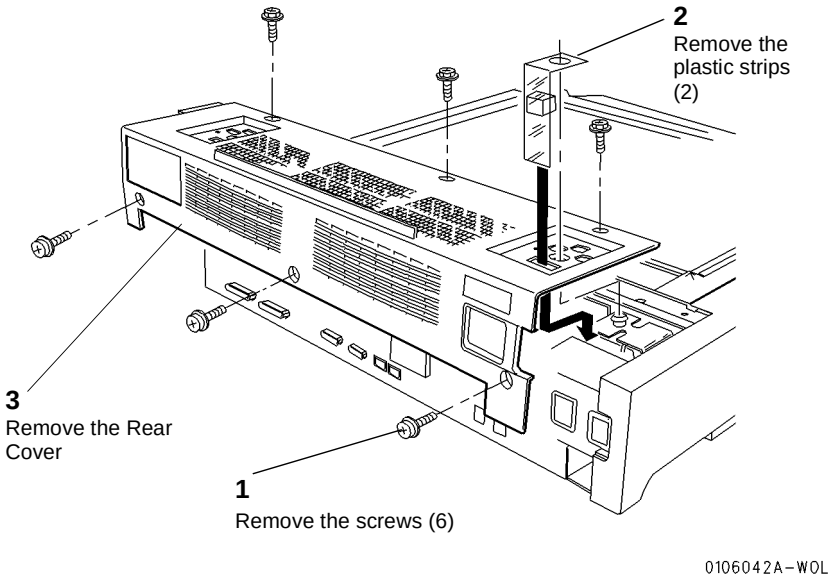


**Figure 1 Removing the Rear Cover**

## Replacement

1. Perform the procedure for removal in reverse.

# REP 6.5 Angle Sensor

## Parts List on PL 16.1

## Removal

### WARNING

**To avoid personal injury or shock, do not perform repair activities with the power switch on or electrical power applied to the machine.**

1. Switch off the machine power and disconnect the machine Power Cord.
2. Remove the Rear Cover (REP 6.4)
3. Remove the Angle Sensor (Figure 1).

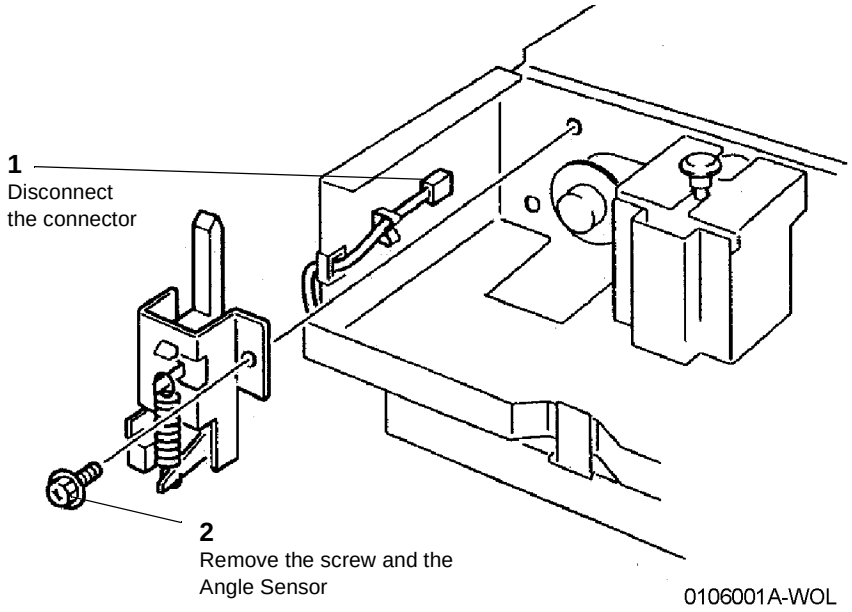


**Figure 1 Removing the Angle Sensor**

## Replacement

1. Perform the procedure for removal in reverse.

# REP 6.6 Platen Switch

## Parts List on PL 16.1

## Removal

### WARNING

**To avoid personal injury or shock, do not perform repair activities with the power switch on or electrical power applied to the machine.**

1. Switch off the machine power and disconnect the machine Power Cord.
2. Remove the Platen Glass (REP 6.1).
3. Remove the Control Panel Assembly (REP 6.23)
4. Remove the Platen Switch (Figure 1).

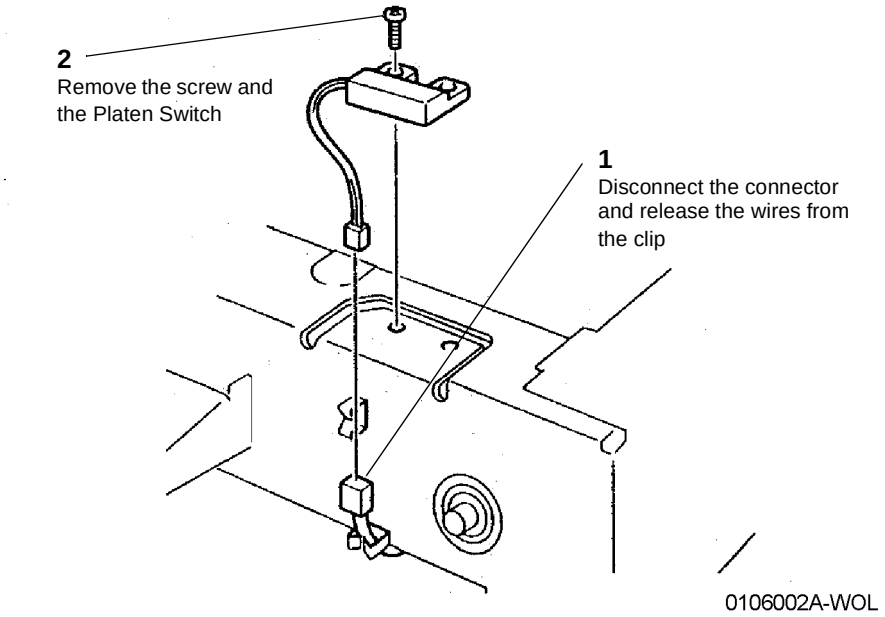


**Figure 1 Removing the Platen Switch**

## Replacement

1. Perform the procedure for removal in reverse.

# REP 6.7 Registration Sensor

## Parts List on PL 16.1

## Removal

### WARNING

**To avoid personal injury or shock, do not perform repair activities with the power switch on or electrical power applied to the machine.**

1. Switch off the machine power and disconnect the machine Power Cord.
2. Remove the Left Cover (REP 6.3).
3. Remove the Rear Cover (REP 6.4)
4. Remove the bracket, containing the power receptacles. (Figure 1)

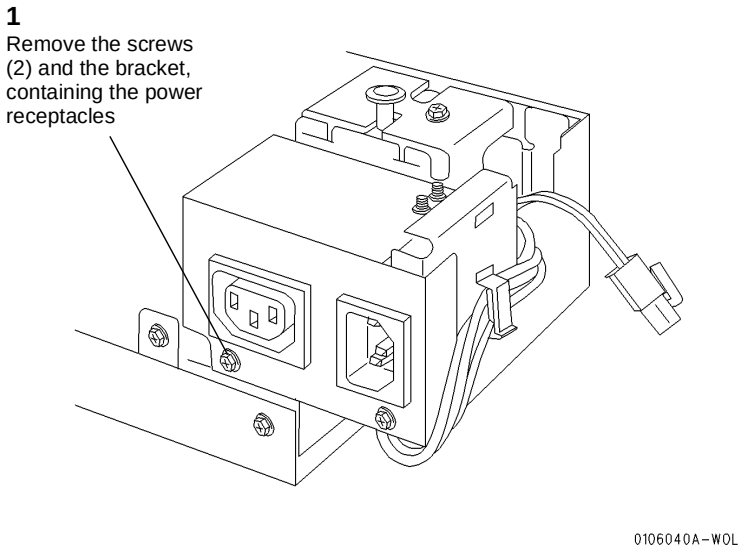


**Figure 1 Removing the Bracket and Power Receptacles**

5. Remove the Registration Sensor (Figure 2).

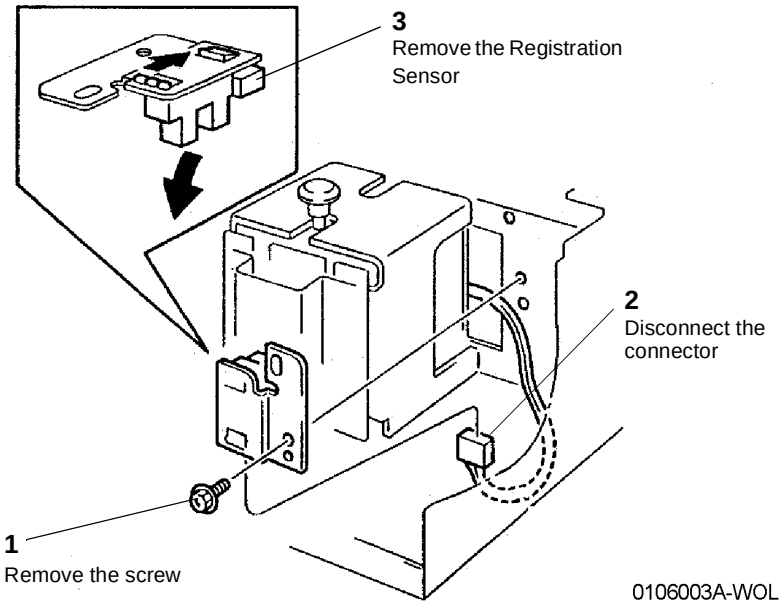


**Figure 2 Removing the Registration Sensor**

## Replacement

1. Perform the procedure for removal in reverse.

# REP 6.8 IIT Low Voltage Power Supply (LVPS)

## Parts List on PL 16.1

## Removal

### WARNING

**To avoid personal injury or shock, do not perform repair activities with the power switch on or electrical power applied to the machine.**

1. Switch off the machine power and disconnect the machine Power Cord.
2. Remove the Rear Cover (REP 6.4)
3. Remove the IIT LVPS (Figure 1).

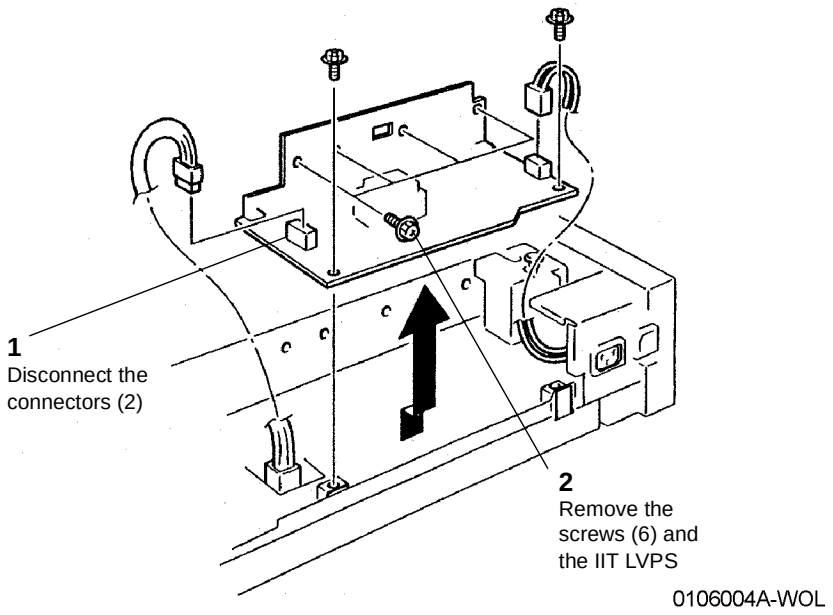


**Figure 1 Removing the IIT LVPS**

## Replacement

1. Perform the procedure for removal in reverse.

# REP 6.9 Fan

## Parts List on PL 16.1

## Removal

### WARNING

**To avoid personal injury or shock, do not perform repair activities with the power switch on or electrical power applied to the machine.**

1. Switch off the machine power and disconnect the machine Power Cord.
2. Remove the Platen Glass (REP 6.1).
3. Remove the Right Cover (REP 6.2).

***NOTE:*** *The removal procedure is identical for both fans.*

4. Remove the Fan (Figure 1).

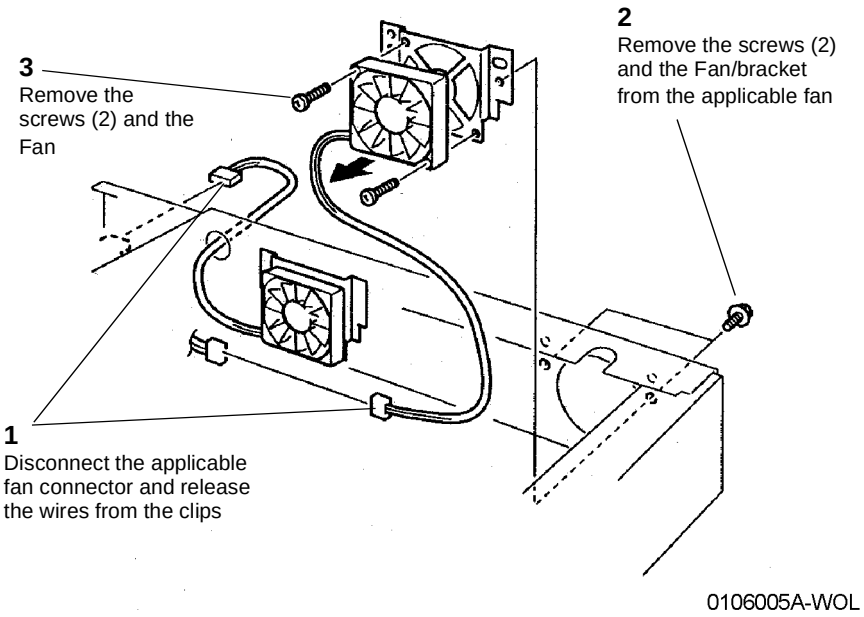
2
Remove the screws (2) and the Fan/bracket from the applicable fan
3
Remove the screws (2) and the Fan
1
Disconnect the applicable fan connector and release the wires from the clips
0106005A-WOL

**Figure 1 Removing the Fan**

## Replacement

1. Perform the procedure for removal in reverse.

# REP 6.10 APS Sensor

## Parts List on PL 16.1

## Removal

### WARNING

**To avoid personal injury or shock, do not perform repair activities with the power switch on or electrical power applied to the machine.**

1. Switch off the machine power and disconnect the machine Power Cord.
2. Remove the Platen Glass (REP 6.1).
3. Remove the Cover (Figure 1).

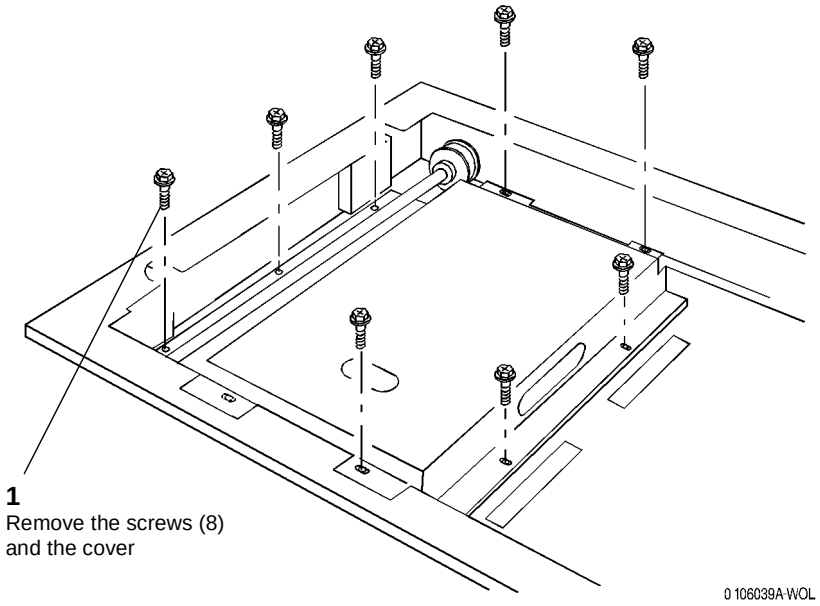


**Figure 1 Removing the Cover**

4. Remove the APS Sensor (Figure 2).

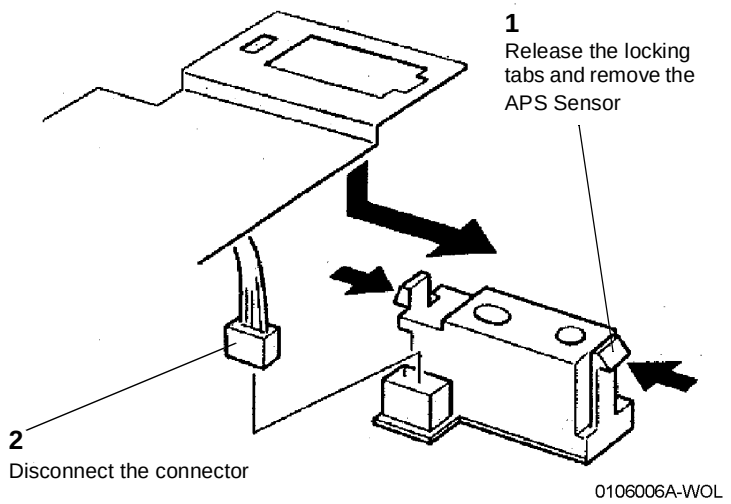


**Figure 2 Removing the APS Sensor**

## Replacement

1. Perform the procedure for removal in reverse.

# REP 6.11 PWB Box

## Parts List on PL 16.1

## Removal

### WARNING

**To avoid personal injury or shock, do not perform repair activities with the power switch on or electrical power applied to the machine.**

1. Switch off the machine power and disconnect the machine Power Cord.
2. Remove the Platen Glass (REP 6.1).
3. Remove the ADF Assembly (REP 5.1).
4. Remove the Right Cover from the Scanner (REP 6.2).
5. Remove the Rear Cover from the Scanner (REP 6.4).
6. Remove the Advanced Features Memory PWB (REP 6.16).
7. Remove the connector cover (Figure 1).

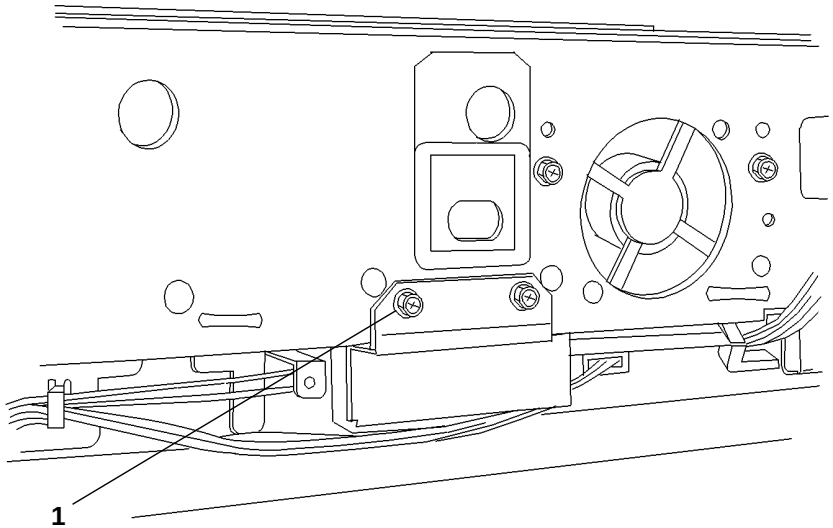


**Figure 1 Removing the Connector Cover**

8. Disconnect five connectors from the ICM Main PWB (Figure 2).

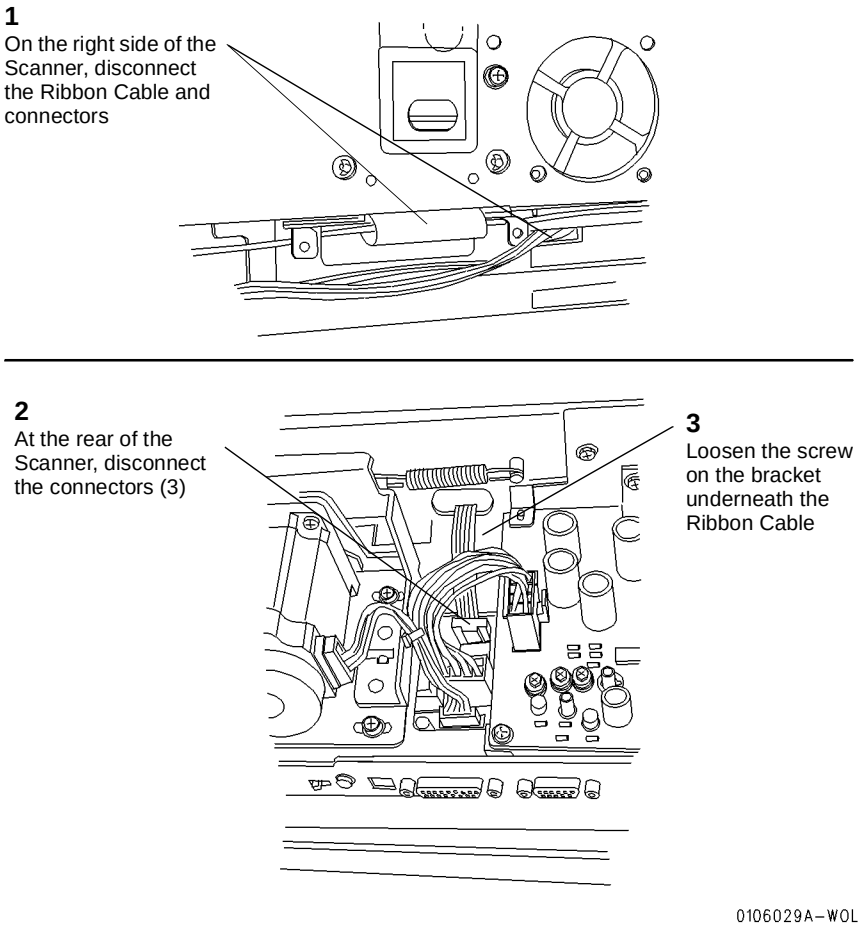
1
On the right side of the Scanner, disconnect the Ribbon Cable and connectors
2
At the rear of the Scanner, disconnect the connectors (3)
3
Loosen the screw on the bracket underneath the Ribbon Cable
0106029A-WOL

**Figure 2 Disconnecting the Connectors**

9. Disconnect the connectors from the ICM Main PWB (right rear) (Figure 3).

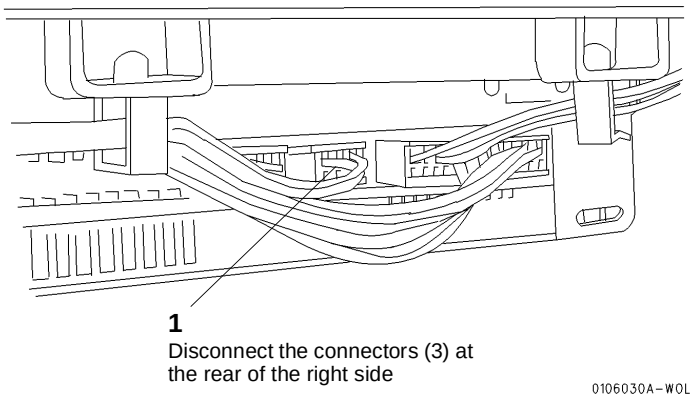


**Figure 3 Disconnecting the IIT ICM PWB Connectors**

10. Remove the screws holding the PWB Box to the IIT Frame (Figure 4).

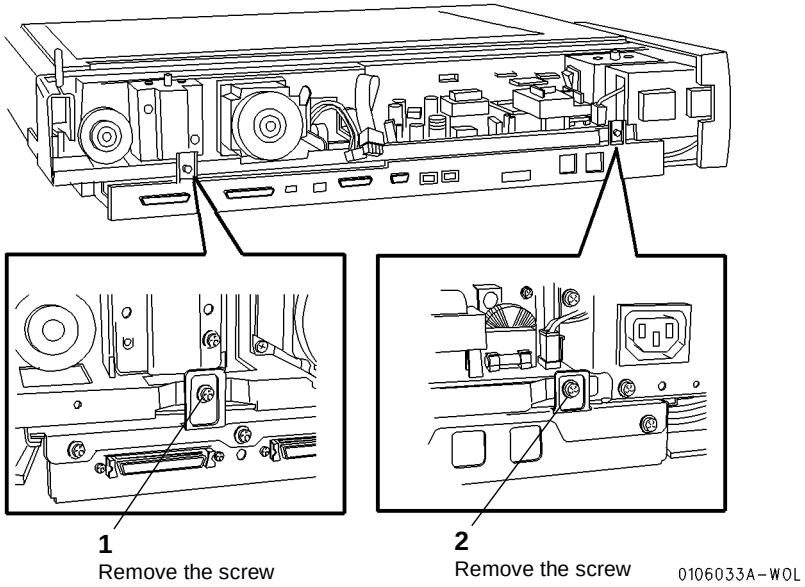


**Figure 4 Accessing the PWB Box**

11. Slide the PWB Box from the IIT Frame (Figure 5).

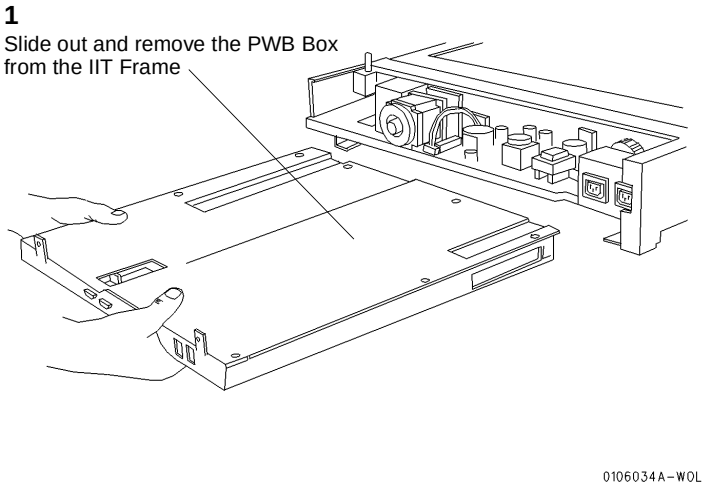


**Figure 5 Removing the PWB Box**

## Replacement

1. Perform the procedure for removal in reverse.

# REP 6.12 PWB Box Cover

## Parts List on PL 16.2

## Removal

### WARNING

**To avoid personal injury or shock, do not perform repair activities with the power switch on or electrical power applied to the machine.**

1. Switch off the machine power and disconnect the machine Power Cord.
2. Remove the PWB Box (REP 6.11)
3. Remove the PWB Box Cover (Figure 1).

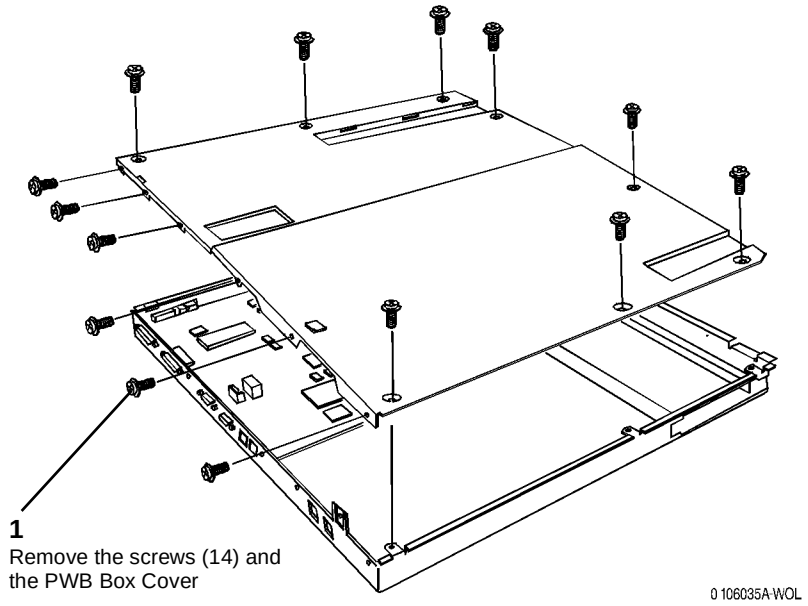


**Figure 1 Removing the PWB Box Cover**

## Replacement

1. Perform the procedure for removal in reverse.

# REP 6.13 IPS PWB

## Parts List on PL 16.2

## Removal

### WARNING

**To avoid personal injury or shock, do not perform repair activities with the power switch on or electrical power applied to the machine.**

1. Switch off the machine power and disconnect the machine Power Cord.
2. Remove the PWB Box (REP 6.11)
3. Remove the PWB Box Cover (REP 6.12)

**CAUTION**

*The PWB components are highly susceptible to damage from electrostatic discharge (ESD) and extreme care should be used when handling these components. Use of the ESD Field Service Kit is required.*

4. Remove the IPS PWB (Figure 1).

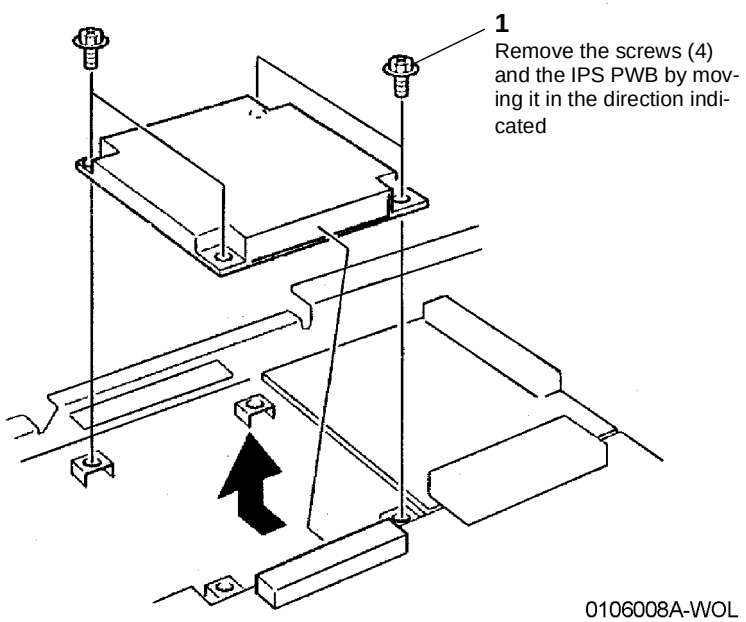


**Figure 1 Removing the IPS PWB**

## Replacement

1. Perform the procedure for removal in reverse.

# REP 6.14 ICM Main PWB

## Parts List on PL 16.2

## Removal

### WARNING

**To avoid personal injury or shock, do not perform repair activities with the power switch on or electrical power applied to the machine.**

1. Switch off the machine power and disconnect the machine Power Cord.
2. Remove the PWB Box (REP 6.11)
3. Remove the PWB Box Cover (REP 6.12)

**CAUTION**

*The PWB components are highly susceptible to damage from electrostatic discharge (ESD) and extreme care should be used when handling these components. Use of the ESD Field Service Kit is required.*

**CAUTION**

*Be sure to record the current NVM values for IIT Lead Registration, IIT Side Registration, IIT Magnification, and Auto Shading before replacing the ICM MAIN PWB. After replacing the ICM MAIN PWB, enter the previously recorded data back into the machine.*

4. Remove the ICM Main PWB (Figure 1).

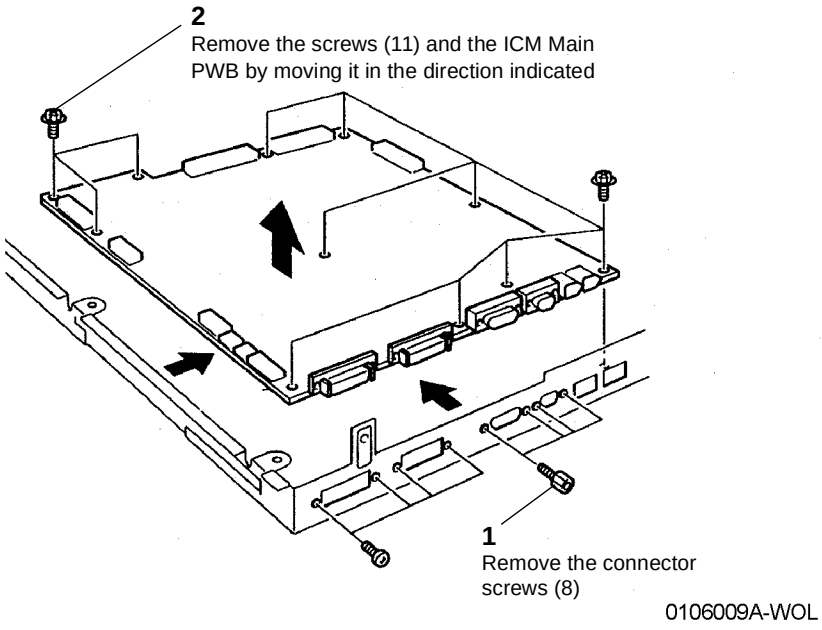
2
Remove the screws (11) and the ICM Main PWB by moving it in the direction indicated
1
Remove the connector screws (8)
0106009A-WOL

**Figure 1 Removing the ICM Main PWB**

## Replacement

1. Perform the procedure for removal in reverse.
2. Perform ICM Main PWB Adjustment (ADJ 6.5).

# REP 6.15 Extension PWB

## Parts List on PL 16.2

## Removal

**WARNING**

**To avoid personal injury or shock, do not perform repair activities with the power switch on or electrical power applied to the machine.**

1. Switch off the machine power and disconnect the machine Power Cord.
2. Remove the PWB Box (REP 6.11)
3. Remove the PWB Box Cover (REP 6.12)

**CAUTION**

*The PWB components are highly susceptible to damage from electrostatic discharge (ESD) and extreme care should be used when handling these components. Use of the ESD Field Service Kit is required.*

4. Remove the Extension PWB (Figure 1).

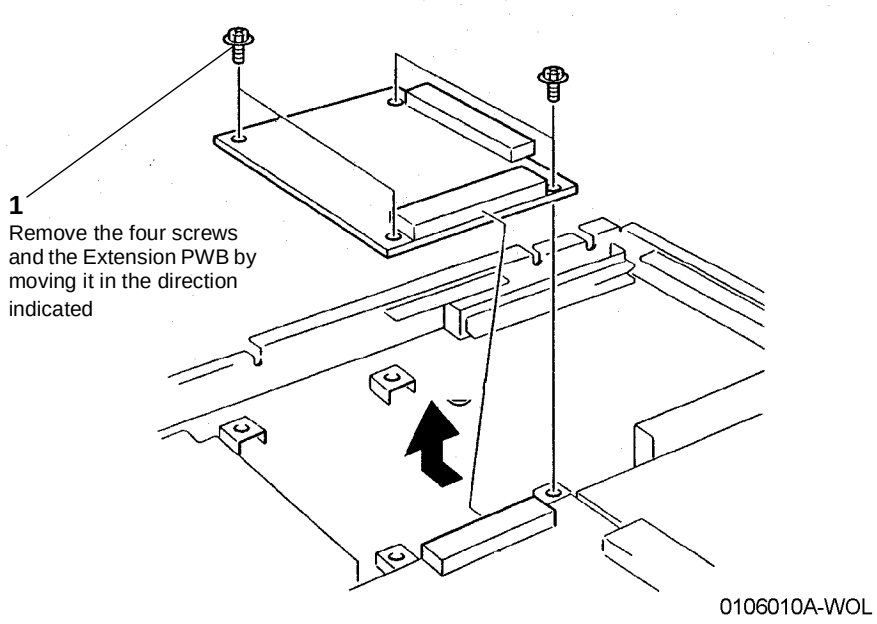


**Figure 1 Removing the Extension PWB**

## Replacement

1. Perform the procedure for removal in reverse.

# REP 6.16 Advanced Features Memory PWB

## Parts List on PL 16.1

## Removal

**WARNING**

**To avoid personal injury or shock, do not perform repair activities with the power switch on or electrical power applied to the machine.**

1. Switch off the machine power and disconnect the machine Power Cord.
2. Remove the Advanced Features Memory PWB Cover (Figure 1).

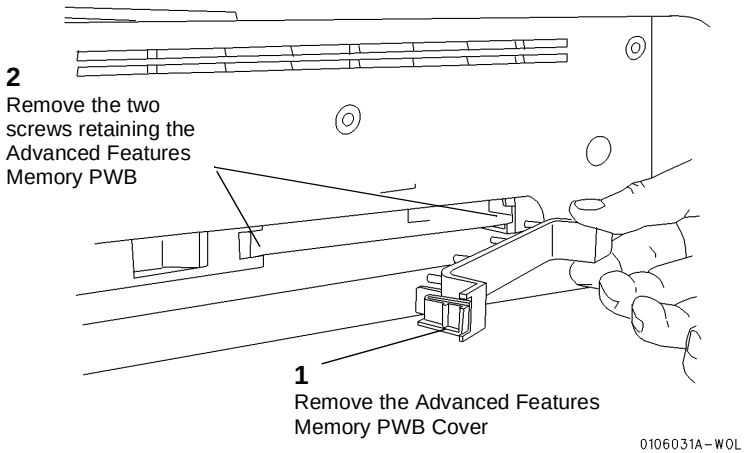
2
Remove the two screws retaining the Advanced Features Memory PWB
1
Remove the Advanced Features Memory PWB Cover
0106031A-WOL

**Figure 1 Removing the Advanced Features Memory Cover**

**CAUTION**

*The PWB components are highly susceptible to damage from electrostatic discharge (ESD) and extreme care should be used when handling these components. Use of the ESD Field Service Kit is required.*

3. Remove the Advanced Features Memory PWB (Figure 2).

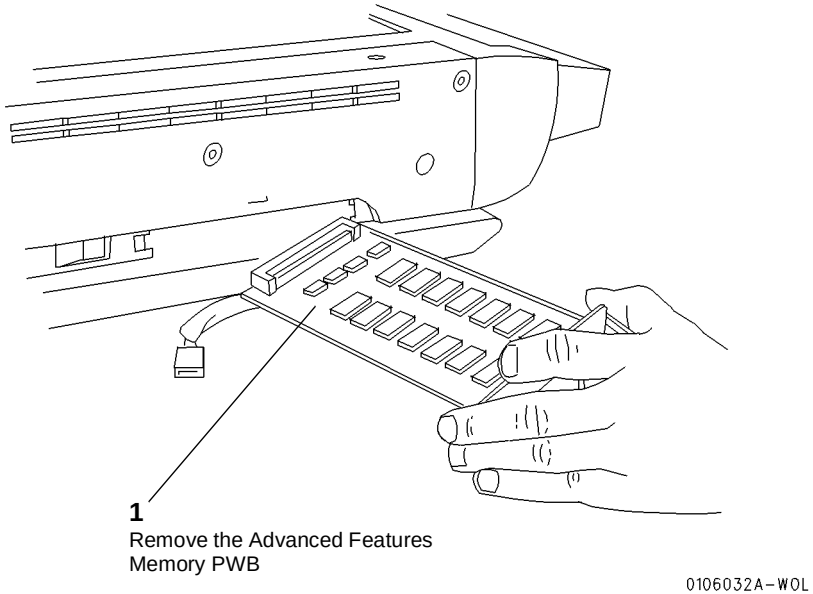


**Figure 2 Removing the Advanced Features Memory PWB**

## Replacement

1. Perform the procedure for removal in reverse.

# REP 6.17 Front / Rear Cable Assembly

## Parts List on PL 16.4

## Removal

**WARNING**

**To avoid personal injury or shock, do not perform repair activities with the power switch on or electrical power applied to the machine.**

1. Switch off the machine power and disconnect the machine Power Cord.

***NOTE:*** *The front and rear Cable Assemblies are mirror-image. Therefore, this procedure is used for the removal / replacement of either of the assemblies.*

2. Remove the Platen Glass (REP 6.1).
3. Remove the Right Cover. (REP 6.2).
4. Remove the Left Cover (REP 6.3).
5. Remove the Rear Cover (REP 6.4).
6. Remove the Control Panel Assembly (REP 6.23).
7. Remove the Full-Rate Carriage (REP 6.21).
8. Remove the Front / Rear Cable Assembly (Figure 1).

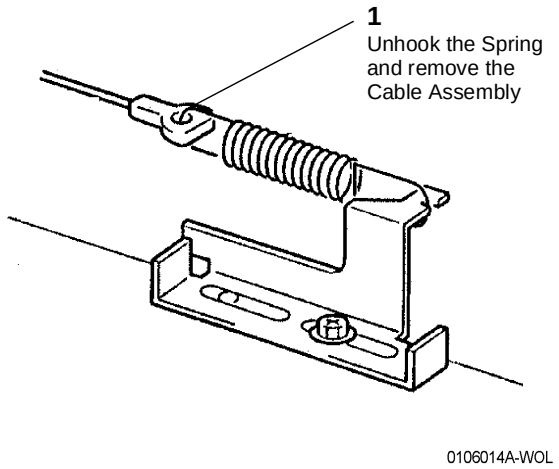


**Figure 1 Removing the Front / Rear Cable Assembly**

## Replacement

1. Install the Front / Rear Cable Assembly (Figure 2).

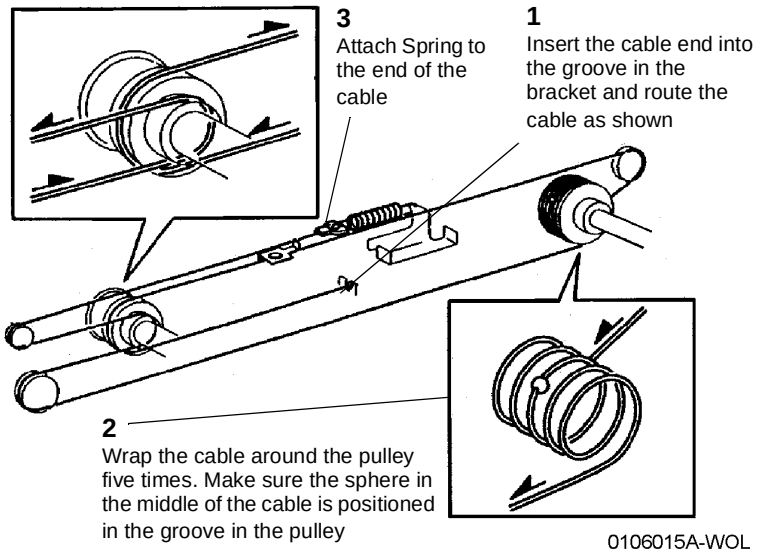
3
Attach Spring to the end of the cable
1
Insert the cable end into the groove in the bracket and route the cable as shown
2
Wrap the cable around the pulley five times. Make sure the sphere in the middle of the cable is positioned in the groove in the pulley
0106015A-WOL

**Figure 2 Routing the Cable Assembly**

**CAUTION**

*Verify that the cable is not twisted and that the Cable Assembly is not contacting any surrounding components or wires.*

2. Reinstall the Full-rate Carriage (REP 6.21).
3. Move the Full-rate Carriage by hand to verify proper operation.
4. Perform a Full/Half-rate Carriage Parallel Adjustment (ADJ 6.2).
5. Reinstall the Rear Cover (REP 6.4).
6. Reinstall the Right Cover (REP 6.2).
7. Reinstall the Left Cover (REP 6.3).
8. Reinstall the Control Panel Assembly (REP 6.23).
9. Reinstall the Platen Glass (REP 6.1).

# REP 6.18 Carriage Motor

## Parts List on PL 16.4

## Removal

**WARNING**

**To avoid personal injury or shock, do not perform repair activities with the power switch on or electrical power applied to the machine.**

1. Switch off the machine power and disconnect the machine Power Cord.
2. Remove the Carriage Motor (Figure 1).

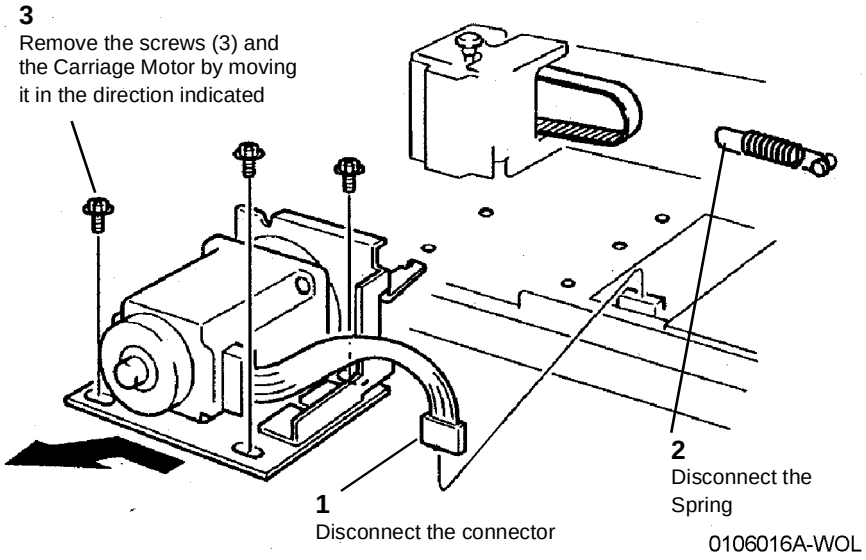


**Figure 1 Removing the Carriage Motor**

## Replacement

1. Perform the procedure for removal in reverse.

# REP 6.19 Belt

## Parts List on PL 16.4

## Removal

### WARNING

**To avoid personal injury or shock, do not perform repair activities with the power switch on or electrical power applied to the machine.**

1. Switch off the machine power and disconnect the machine Power Cord.
2. Remove the Carriage Motor (REP 6.18).
3. Remove the Belt (Figure 1).

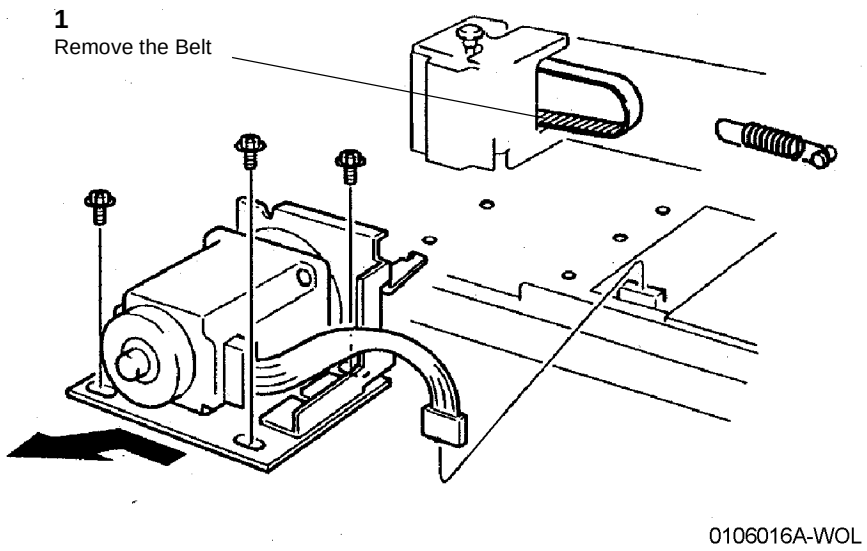


**Figure 1 Removing the Belt**

## Replacement

1. Perform the procedure for removal in reverse.

# REP 6.20 Lamp

## Parts List on PL 16.5

## Removal

### WARNING

**To avoid personal injury or shock, do not perform repair activities with the power switch on or electrical power applied to the machine.**

1. Switch off the machine power and disconnect the machine Power Cord.
2. Remove the Platen Glass (REP 6.1).
3. Move the Full-rate Carriage so that it is aligned with the notches in the center of the scanner frame.
4. Remove the Lamp (Figure 1).

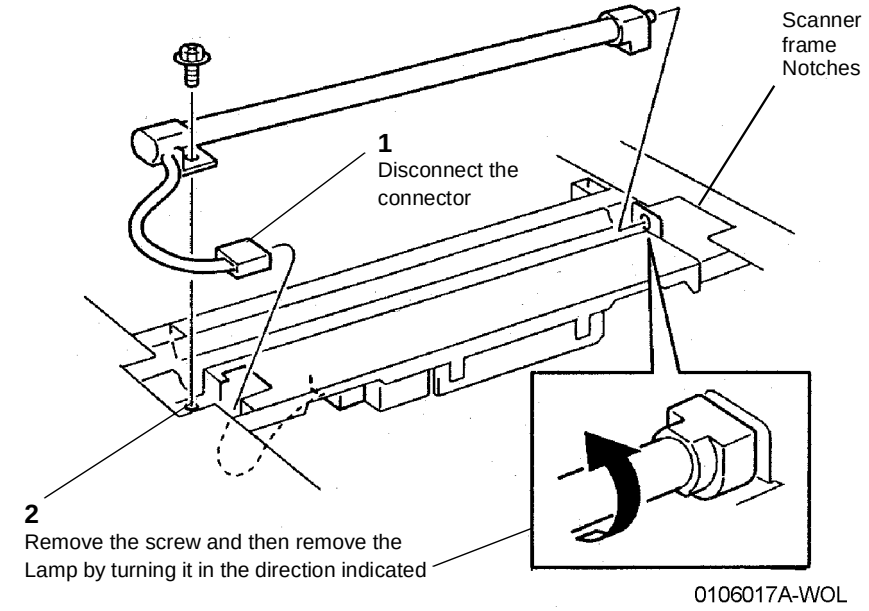
Scanner frame Notches
1
Disconnect the connector
2
Remove the screw and then remove the Lamp by turning it in the direction indicated
0106017A-WOL

**Figure 1 Removing the Lamp**

## Replacement

1. Perform the procedure for removal in reverse.

# REP 6.21 Full-rate Carriage Assembly

## Parts List on PL 16.5

## Removal

### WARNING

**To avoid personal injury or shock, do not perform repair activities with the power switch on or electrical power applied to the machine.**

1. Switch off the machine power and disconnect the machine Power Cord.
2. Remove the Platen Glass (REP 6.1).
3. Remove the Full-rate Carriage. (Figure 1)

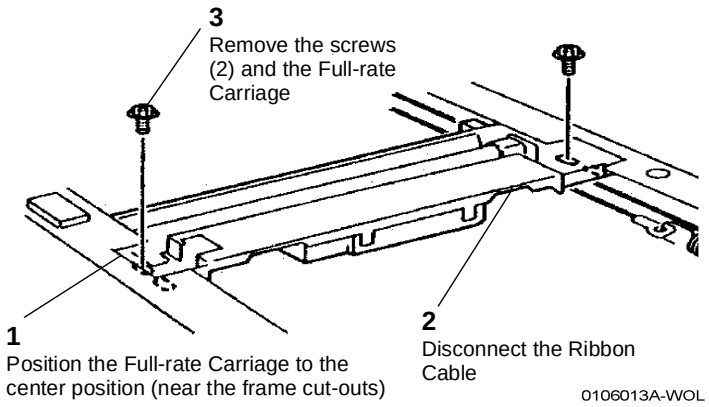
3
Remove the screws (2) and the Full-rate Carriage
1
Position the Full-rate Carriage to the center position (near the frame cut-outs)
2
Disconnect the Ribbon Cable
0106013A-WOL

**Figure 1 Removing the Full-rate Carriage Assembly**

## Replacement

1. Perform the procedure for removal in reverse.
2. Perform a Full/Half-rate Carriage Parallel Adjustment (ADJ 6.2).

# REP 6.22 FLPS PWB

## Parts List on PL 16.5

## Removal

### WARNING

**To avoid personal injury or shock, do not perform repair activities with the power switch on or electrical power applied to the machine.**

1. Switch off the machine power and disconnect the machine Power Cord.
2. Remove the Platen Glass (REP 6.1).

### CAUTION

*The PWB components are highly susceptible to damage from electrostatic discharge (ESD) and extreme care should be used when handling these components. Use of the ESD Field Service Kit is required.*

3. Remove the FLPS PWB (Figure 1).

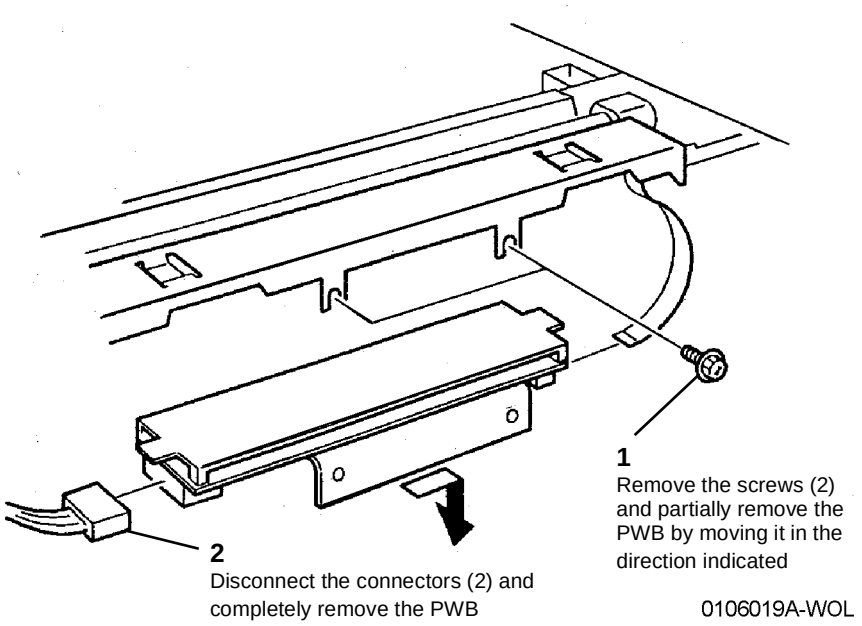
1
Remove the screws (2) and partially remove the PWB by moving it in the direction indicated
2
Disconnect the connectors (2) and completely remove the PWB
0106019A-WOL

**Figure 1 Removing the FLPS PWB**

## Replacement

1. Perform the procedure for removal in reverse.

# REP 6.23 Control Panel Assembly

## Parts List on PL 16.6

## Removal

**WARNING**

**To avoid personal injury or shock, do not perform repair activities with the power switch on or electrical power applied to the machine.**

1. Switch off the machine power and disconnect the machine Power Cord.
2. Remove the Right Cover (REP 6.2).
3. Remove the Left Cover (REP 6.3).
4. Remove the Control Panel Assembly (Figure 1).

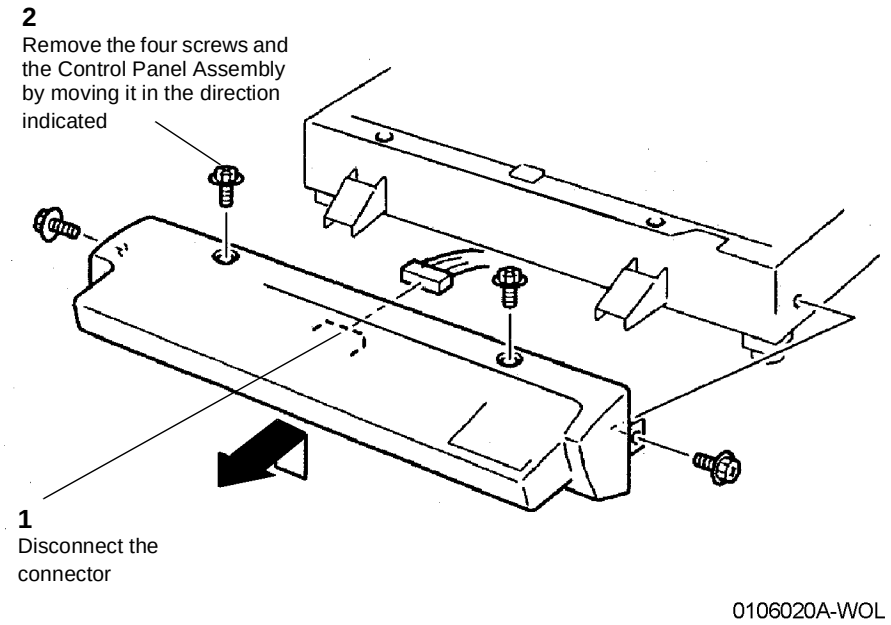
2
Remove the four screws and the Control Panel Assembly by moving it in the direction indicated
1
Disconnect the connector
0106020A-WOL

**Figure 1 Removing the Control Panel Assembly**

## Replacement

1. Perform the procedure for removal in reverse.

# REP 7.1 Size Switch PWB

## Parts List on PL 3.1

## Removal

### WARNING

**To avoid personal injury or shock, do not perform repair activities with the power switch on or electrical power applied to the machine.**

1. Switch off the machine power and disconnect the machine Power Cord.
2. Remove the Rear Cover Assembly. (REP 14.6)
3. Remove the LVPS. (REP 1.1)

**CAUTION**

*The Size Switch Bracket and printer are connected by a harness. Handle the assembly carefully, to avoid damaging the harness.*

4. Remove the Size Switch Bracket. (Figure 1)

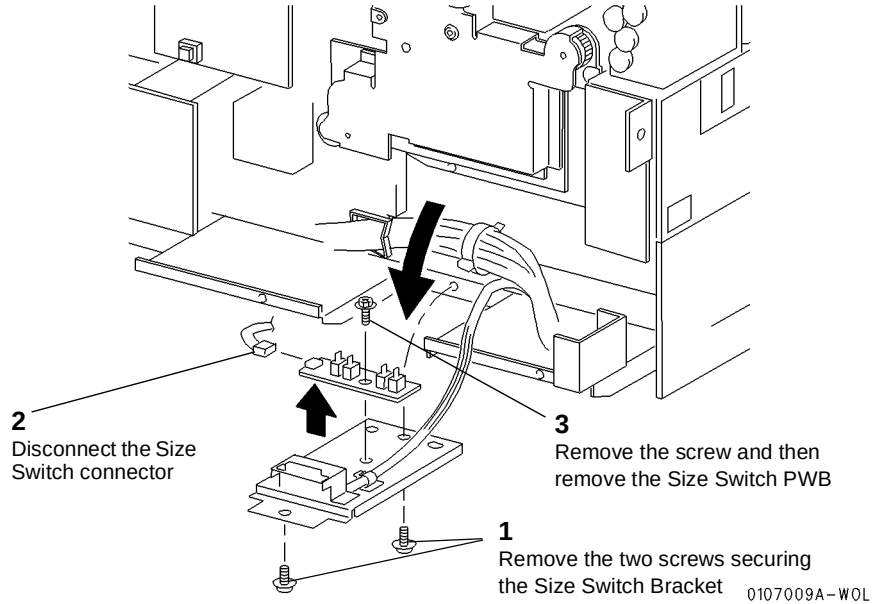
2
Disconnect the Size Switch connector
3
Remove the screw and then remove the Size Switch PWB
1
Remove the two screws securing the Size Switch Bracket
0107009A-WOL

**Figure 1 Removing the Size Switch PWB**

## Replacement

***NOTE:*** *Prior to replacement, partially pull out Tray 1 and (if present) the Duplex Tray.*

1. Perform the procedure for removal in reverse.
2. Close Tray 1 and the Duplex Tray.

# REP 7.2 Sensor Bracket

## Parts List on PL 3.1

## Removal

### WARNING

**To avoid personal injury or shock, do not perform repair activities with the power switch on or electrical power applied to the machine.**

1. Switch off the machine power and disconnect the machine Power Cord.
2. Remove the Tray 1 Assembly. (REP 7.6)
3. Remove the Front Mid Cover (REP 14.2) or the Duplex Tray Assembly (REP 8.27).
4. Remove the Sensor Bracket. (Figure 1)

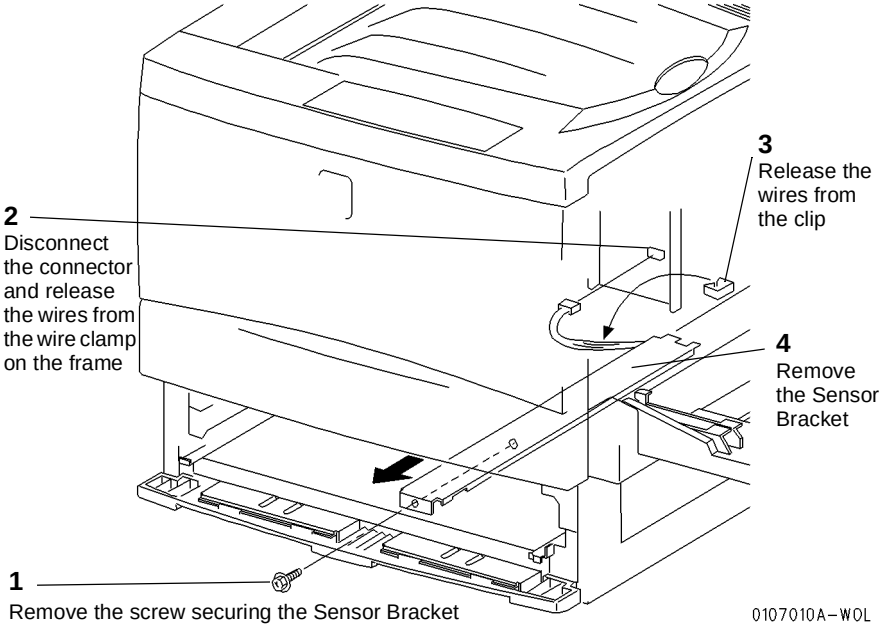
3
Release the wires from the clip
2
Disconnect the connector and release the wires from the wire clamp on the frame
4
Remove the Sensor Bracket
1
Remove the screw securing the Sensor Bracket
0107010A-WOL

**Figure 1 Removing the Sensor Bracket**

## Replacement

1. Perform the procedure for removal in reverse.

***NOTE:*** *When installing dress the harness so it will not interfere with moving parts.*

# REP 7.3 No Paper Sensor Assembly

## Parts List on PL 3.1

## Removal

### WARNING

**To avoid personal injury or shock, do not perform repair activities with the power switch on or electrical power applied to the machine.**

1. Switch off the machine power and disconnect the machine Power Cord.
2. Remove the Tray 1 Assembly. (REP 7.6)
3. Remove the Front Mid Cover (REP 14.2) or the Duplex Tray Assembly (REP 8.27).
4. Remove the Sensor Bracket. (REP 7.2)
5. Remove the No Paper Sensor Assembly. (Figure 1)

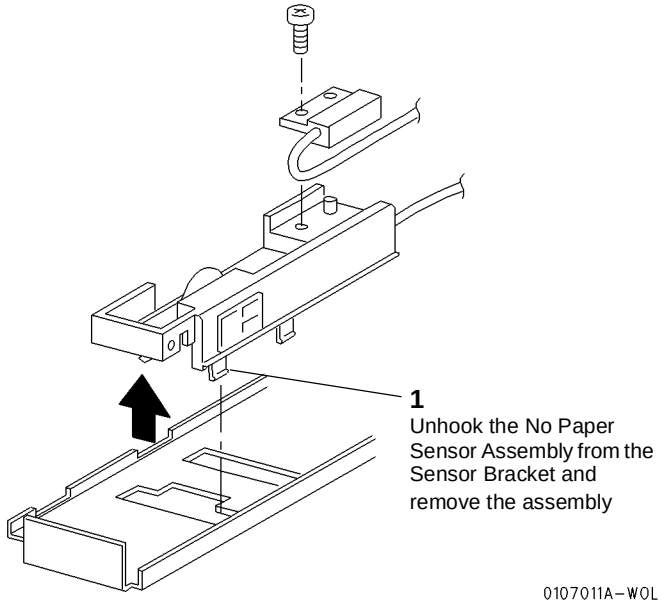


**Figure 1 Removing the No Paper Sensor Assembly**

## Replacement

1. Perform the procedure for removal in reverse.

# REP 7.4 No Paper Sensor

## Parts List on PL 3.1

## Removal

### WARNING

**To avoid personal injury or shock, do not perform repair activities with the power switch on or electrical power applied to the machine.**

1. Switch off the machine power and disconnect the machine Power Cord.
2. Remove the Tray 1 Assembly. (REP 7.6)
3. Remove the Front Mid Cover (REP 14.2) or the Duplex Tray Assembly (REP 8.27).
4. Remove the Sensor Bracket. (REP 7.2)
5. Remove the No Paper Sensor Assembly. (REP 7.3)
6. Remove the No Paper Sensor. (Figure 1)

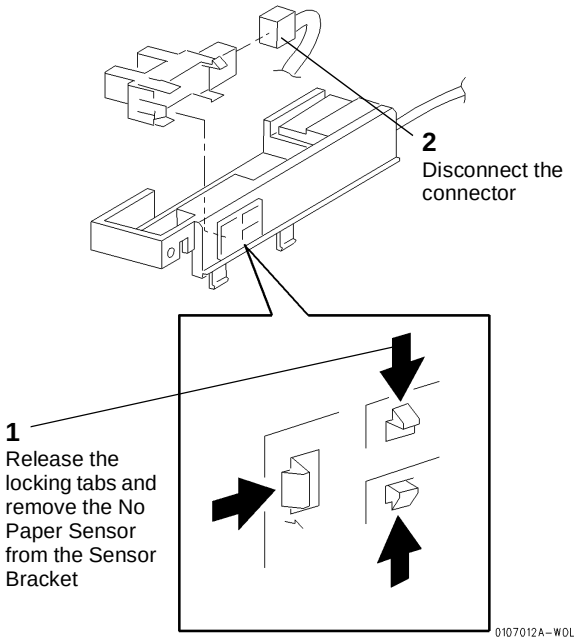
2
Disconnect the connector
1
Release the locking tabs and remove the No Paper Sensor from the Sensor Bracket
0107012A-WOL

**Figure 1 Removing the No Paper Sensor**

## Replacement

1. Perform the procedure for removal in reverse.

***NOTE:*** *When installing the No Paper Actuator, the Actuator must be positioned directly above the No Paper Sensor.*

# REP 7.5 Low Paper Sensor

## Parts List on PL 3.1

## Removal

### WARNING

**To avoid personal injury or shock, do not perform repair activities with the power switch on or electrical power applied to the machine.**

1. Switch off the machine power and disconnect the machine Power Cord.
2. Remove the Tray 1 Assembly. (REP 7.6)
3. Remove the Front Mid Cover (REP 14.2) or the Duplex Tray Assembly (REP 8.27).
4. Remove the Sensor Bracket. (REP 7.2)
5. Remove the Low Paper Sensor from the No Paper Sensor Assembly. (Figure 1)

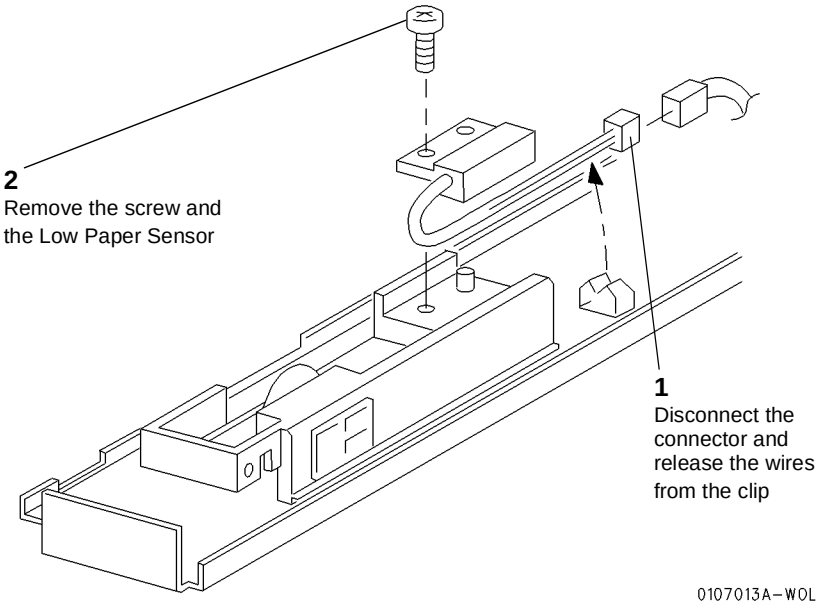


**Figure 1 Removing the Low Paper Sensor**

## Replacement

1. Perform the procedure for removal in reverse.

***NOTE:*** *Install the sensor so that the positioning boss on the No Paper Sensor Assembly is aligned with the positioning hole of the Low Paper Sensor.*

# REP 7.6 Tray 1 Assembly / Paper Tray Assembly / Oversize Tray Assembly

## Parts List on PL 2.1, PL 13.1, PL 14.3

## Removal

1. Remove the Tray 1 Assembly, Paper Tray Assembly, or Oversize Tray Assembly, typically in the following manner:
   a. While pulling the paper tray straight out of the machine, lift the front of the tray to remove it from the machine.

## Replacement

1. Perform the procedure for removal in reverse.

# REP 7.7 Tray 1 Front Snubber

## Parts List on PL 2.1

## Removal

1. Remove the Tray 1 Assembly. (REP 7.6)
2. Set the Bottom Plate to the raised position by actuating the Plate Link. (Figure 1)

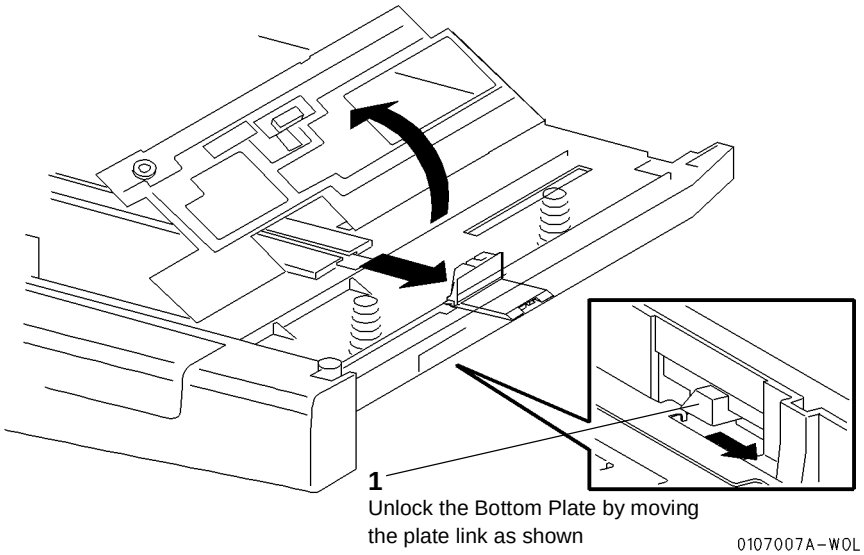


**Figure 1 Unlocking the Bottom Plate**

**CAUTION**

*The area of the Tray 1 Front Snubber that comes in contact with the paper is easily bent. Use care when handling the front snubber.*

**CAUTION**

*The Front Guide mounting position is critical to proper operation. Prior to removing the Front Guide, take note of its mounting position.*

3. Remove the Tray 1 Front Snubber. (Figure 2)

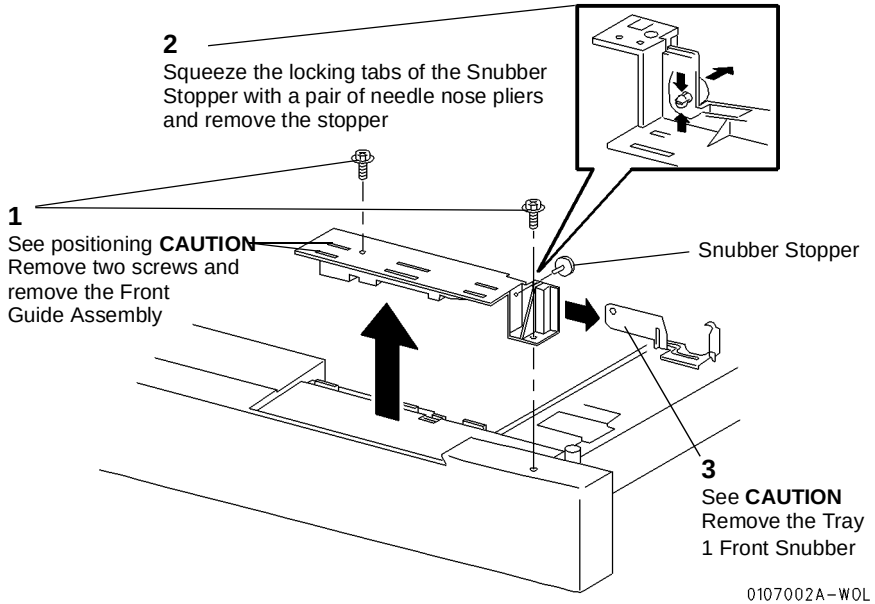
2
Squeeze the locking tabs of the Snubber Stopper with a pair of needle nose pliers and remove the stopper
1
See positioning **CAUTION**
Remove two screws and remove the Front Guide Assembly
Snubber Stopper
3
See **CAUTION**
Remove the Tray 1 Front Snubber
0107002A-WOL

**Figure 2 Removing the Tray 1 Front Snubber**

## Replacement

1. Perform the procedure for removal in reverse.

**CAUTION**

*The area of the Tray 1 Front Snubber that comes in contact with the paper is easily bent. Use care when handling the Front Snubber.*

2. When installing the Tray 1 Front Snubber, make sure that the Bottom Plate is situated under the tab on the top of the snubber and that the snubber is fully seated to the slot in the side of the tray.
3. Install the Front Guide to the exact position from which it was removed.

# REP 7.8 Oversize Tray Front Snubber

## Parts List on PL 14.2

## Removal

1. Remove the Oversize Tray Assembly. (REP 7.6)
2. Set the Bottom Plate to the raised position by actuating the Plate Link. (Figure 1)

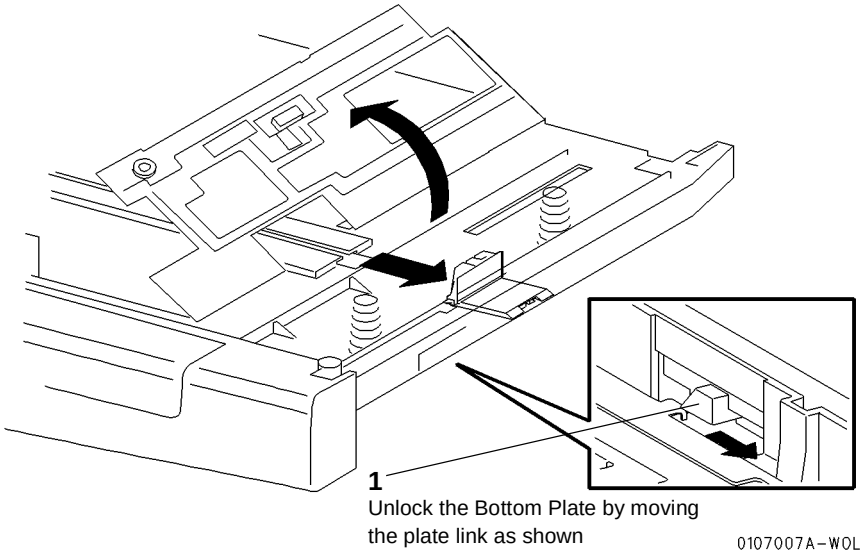


**Figure 1 Unlocking the Bottom Plate**

**CAUTION**

*The area of the Oversize Tray Front Snubber that comes in contact with the paper is easily bent. Use care when handling the front snubber.*

**CAUTION**

*The Front Guide mounting position is critical to proper operation. Prior to removing the Front Guide, take note of its mounting position.*

3. Remove the Oversize Tray Front Snubber. (Figure 2)

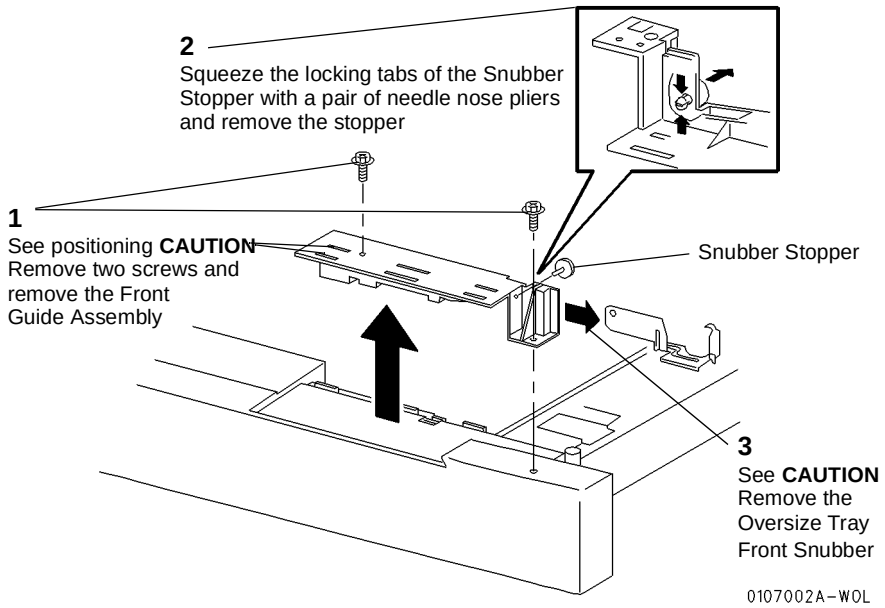
2
Squeeze the locking tabs of the Snubber Stopper with a pair of needle nose pliers and remove the stopper
1
See positioning CAUTION
Remove two screws and remove the Front Guide Assembly
Snubber Stopper
3
See CAUTION
Remove the Oversize Tray Front Snubber
0107002A-WOL

**Figure 2 Removing the Oversize Tray Front Snubber**

## Replacement

1. Perform the procedure for removal in reverse.

**CAUTION**

*The area of the Oversize Tray Front Snubber that comes in contact with the paper is easily bent. Use care when handling the front snubber.*

2. When installing the Oversize Tray Front Snubber, make sure that the Bottom Plate is situated under the tab on the top of the snubber and that the snubber is fully seated to the slot in the side of the tray.
3. Install the Front Guide to the exact position from which it was removed.

# REP 8.1 Turn Roll

## Parts List on PL 3.3

## Removal

### WARNING

**To avoid personal injury or shock, do not perform repair activities with the power switch on or electrical power applied to the machine.**

1. Switch off the machine power and disconnect the machine Power Cord.
2. Remove the Tray 1 Assembly. (REP 7.6)
3. Remove the Front Mid Cover (REP 14.2), or the Duplex Tray Assembly. (REP 8.27)
4. Access the Turn In Chute. (Figure 1)

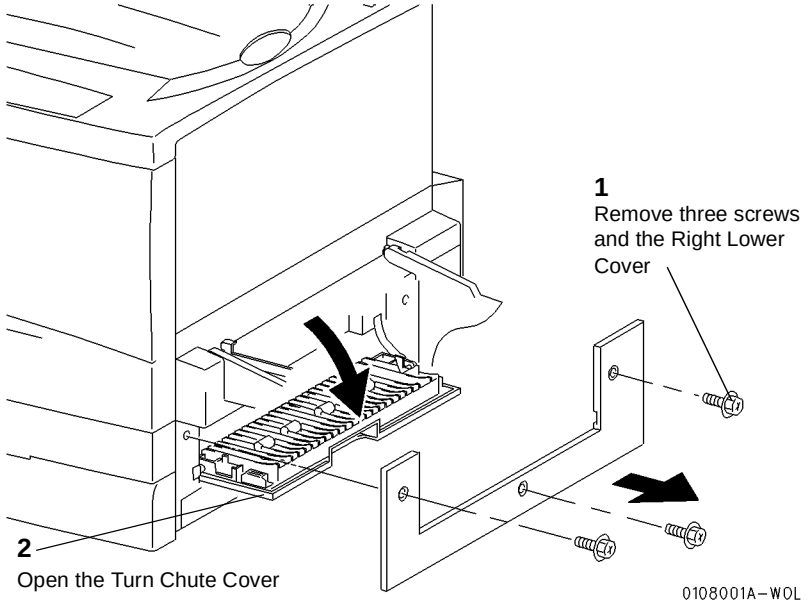


**Figure 1 Accessing the Turn In Chute**

**CAUTION**

*Use care not to damage the hinges of the Turn In Chute during removal and replacement.*

5. Remove the Turn In Chute. (Figure 2)

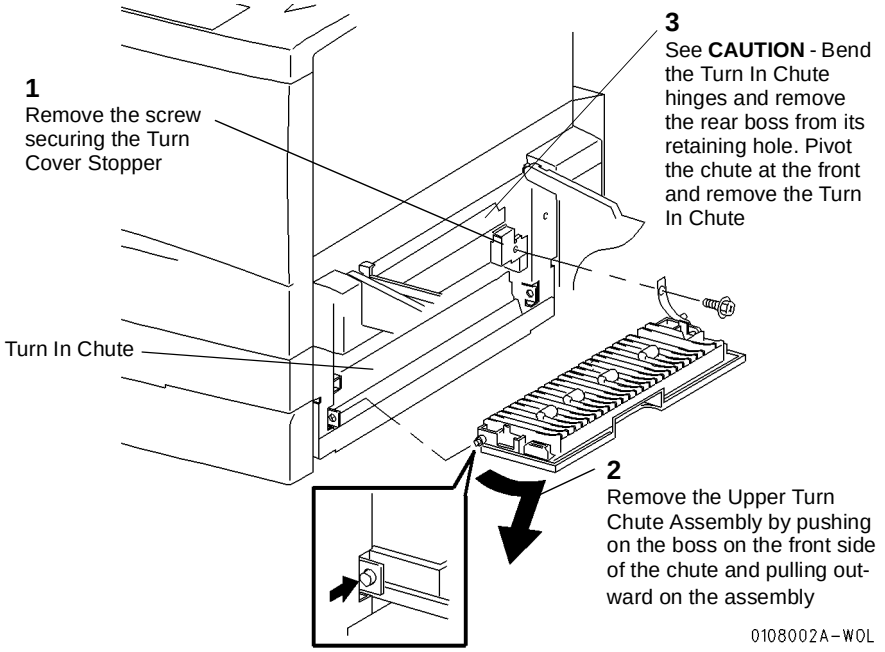
1
Remove the screw securing the Turn Cover Stopper
3
See **CAUTION** - Bend the Turn In Chute hinges and remove the rear boss from its retaining hole. Pivot the chute at the front and remove the Turn In Chute
Turn In Chute
2
Remove the Upper Turn Chute Assembly by pushing on the boss on the front side of the chute and pulling outward on the assembly
0108002A-WOL

**Figure 2 Removing the Turn In Chute**

6. Remove the Turn Roll. (Figure 3)

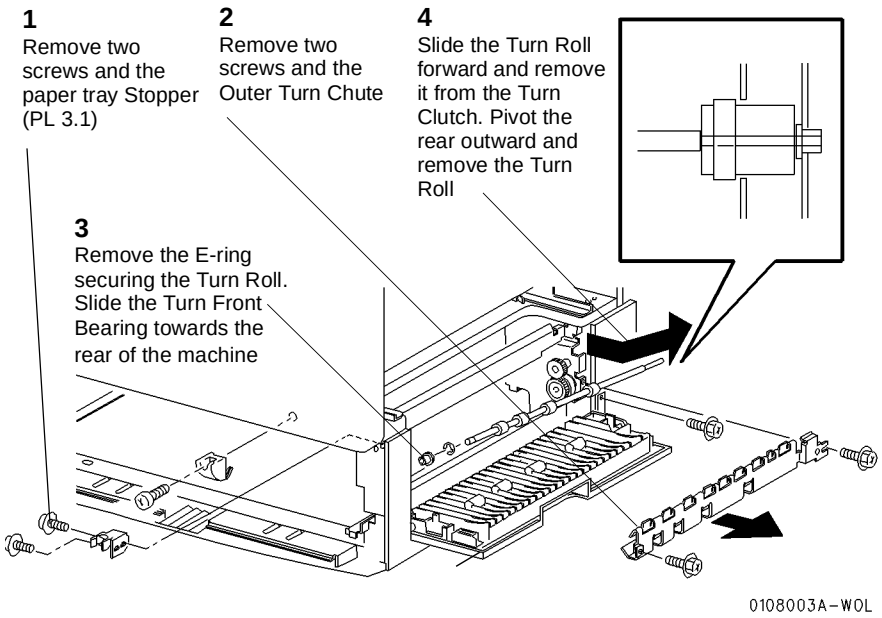
1
Remove two screws and the paper tray Stopper (PL 3.1)
2
Remove two screws and the Outer Turn Chute
4
Slide the Turn Roll forward and remove it from the Turn Clutch. Pivot the rear outward and remove the Turn Roll
3
Remove the E-ring securing the Turn Roll. Slide the Turn Front Bearing towards the rear of the machine
0108003A-WOL

**Figure 3 Removing the Turn Roll**

## Replacement

1. Perform the procedure for removal in reverse.

   ***NOTE:*** *When installing the Stopper for the paper tray, position the paper tray and secure the Stopper to the position where it securely holds the paper tray in place.*

# REP 8.2 Feed Roll

## Parts List on PL 3.3

## Removal

### WARNING

**To avoid personal injury or shock, do not perform repair activities with the power switch on or electrical power applied to the machine.**

1. Switch off the machine power and disconnect the machine Power Cord.
2. Remove the Tray 1 Assembly. (REP 7.6)
3. Remove the Front Mid Cover (REP 14.2), or the Duplex Tray Assembly. (REP 8.26)
4. Remove the Sensor Bracket. (REP 7.2).

### WARNING

**Use extreme care when working in the vicinity of the exposed metal frame parts. The edges of the parts may be very sharp and could cause serious injury.**

5. Remove the Feed Roll. (Figure 1).

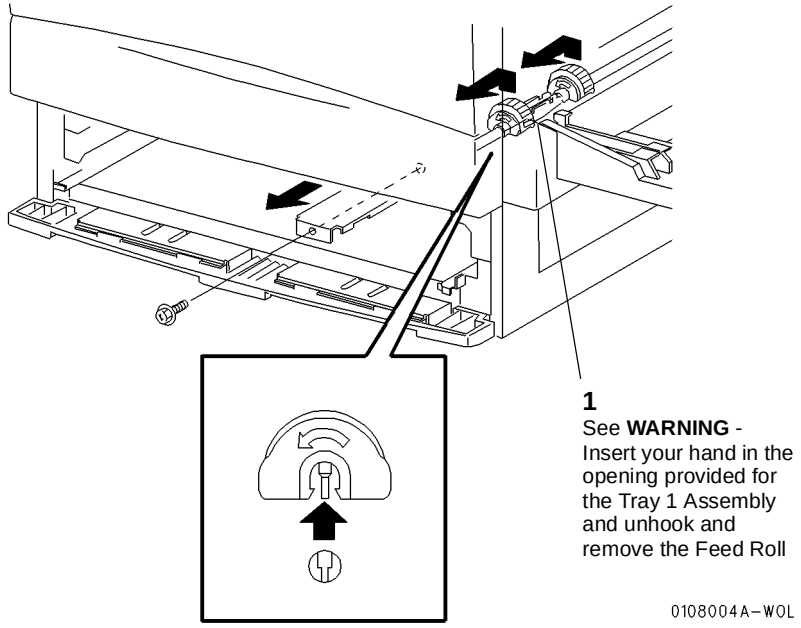
1
See **WARNING** - Insert your hand in the opening provided for the Tray 1 Assembly and unhook and remove the Feed Roll
0108004A-WOL

**Figure 1 Removing the Feed Roll**

## Replacement

1. Perform the procedure for removal in reverse.

   ***NOTE:*** *Install the Feed Roll in accordance with the rotation direction indicated by the arrow on the side of the Feed Roll.*

# REP 8.3 Feed Roll Assembly

## Parts List on PL 3.3

## Removal

### WARNING

**To avoid personal injury or shock, do not perform repair activities with the power switch on or electrical power applied to the machine.**

1. Switch off the machine power and disconnect the machine Power Cord.
2. Remove the Rear Cover Assembly. (REP 14.6)
3. Remove the HVPS. (REP 1.2)
4. Remove the Paper Handling Drive Assembly. (REP 4.1)
5. Remove the Feed Solenoid. (REP 8.5).
6. Remove the Sensor Bracket (REP 7.2)
7. Remove the Feed Roll. (REP 8.2)

### WARNING

**Use extreme care when working in the vicinity of the exposed metal frame parts. The edges of the parts may be very sharp and could cause serious injury.**

8. Remove the Feed Roll Assembly. (Figure 1)

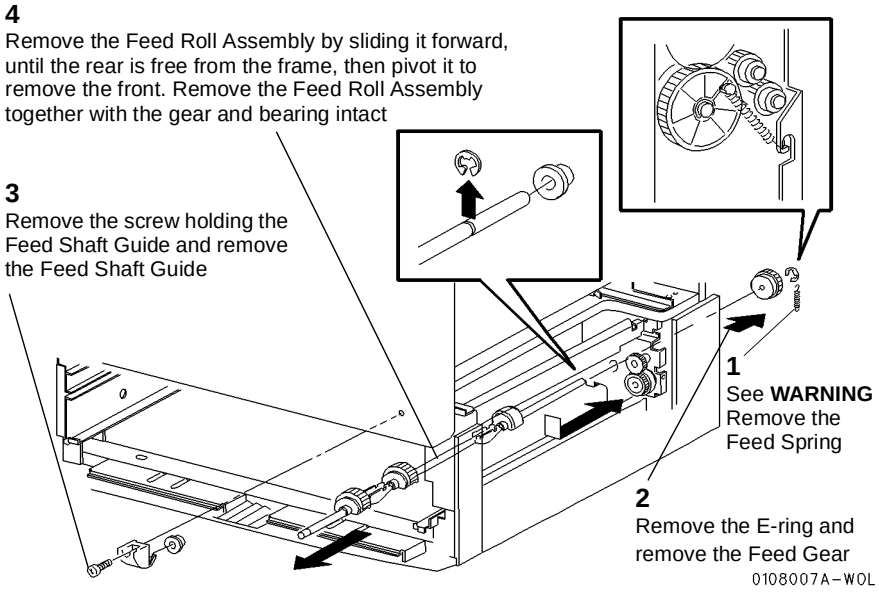
4
Remove the Feed Roll Assembly by sliding it forward, until the rear is free from the frame, then pivot it to remove the front. Remove the Feed Roll Assembly together with the gear and bearing intact
3
Remove the screw holding the Feed Shaft Guide and remove the Feed Shaft Guide
1
See WARNING
Remove the Feed Spring
2
Remove the E-ring and remove the Feed Gear
0108007A-WOL

**Figure 1 Removing the Feed Roll Assembly**

## Replacement

1. Perform the procedure for removal in reverse.
2. When installing, verify that the Feed Gear teeth are stopped by the armature of the Feed Solenoid.

# REP 8.4 Turn Clutch

## Parts List on PL 3.3

## Removal

### WARNING

**To avoid personal injury or shock, do not perform repair activities with the power switch on or electrical power applied to the machine.**

1. Switch off the machine power and disconnect the machine Power Cord.
2. Remove the Rear Cover. (REP 14.6)
3. Remove the Turn Roll. (REP 8.1)

### WARNING

**Use extreme care when working in the vicinity of the Option Bracket. The edges of the Option Bracket may be very sharp and could cause serious injury.**

4. Disconnect the Turn Clutch. (Figure 1)

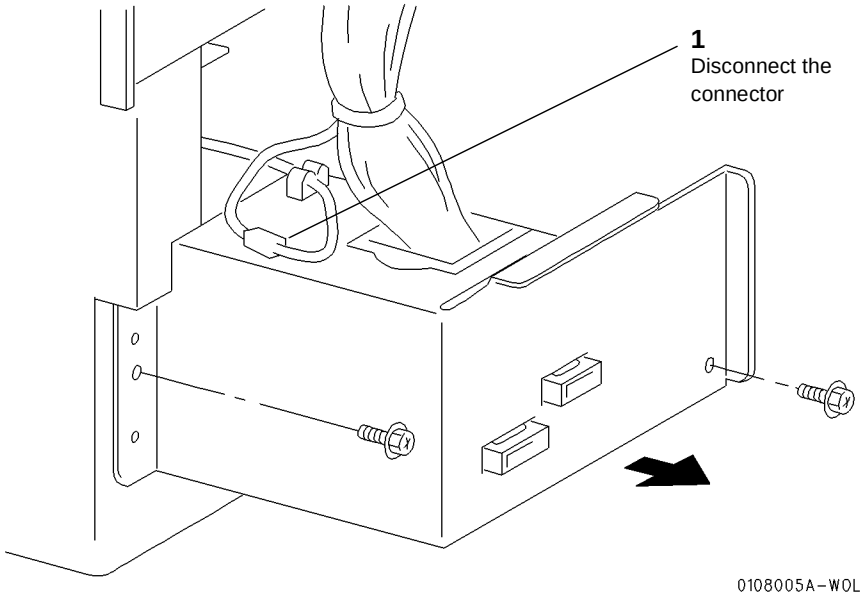


**Figure 1 Disconnecting the Turn Clutch**

5. Remove the Turn Clutch. (Figure 2)

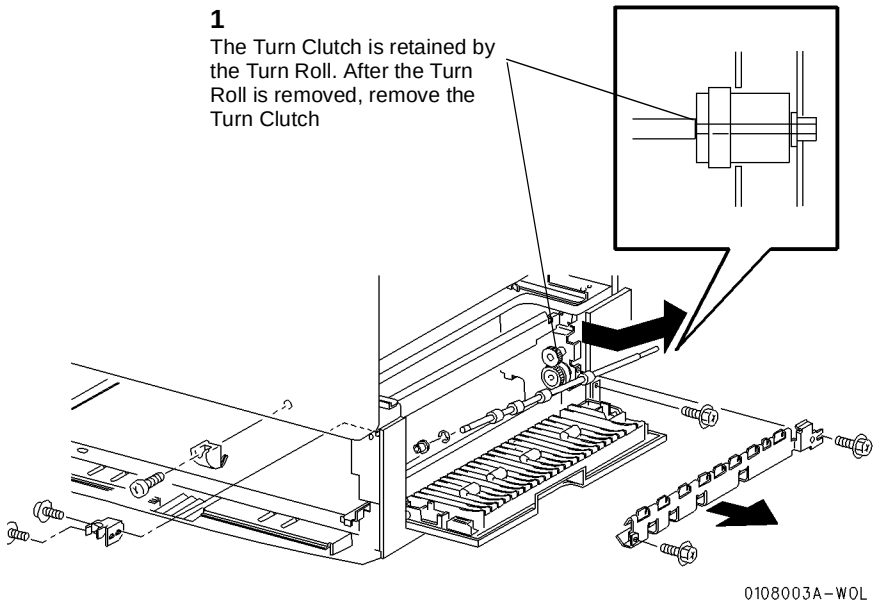


**Figure 2 Removing the Turn Clutch**

## Replacement

1. Perform the procedure for removal in reverse.

# REP 8.5 Feed Solenoid

## Parts List on PL 3.1

## Removal

### WARNING

**To avoid personal injury or shock, do not perform repair activities with the power switch on or electrical power applied to the machine.**

1. Switch off the machine power and disconnect the machine Power Cord.
2. Remove the Rear Cover. (REP 14.6)

### WARNING

**Use extreme care when working in the vicinity of the Option Bracket. The edges of the Option Bracket may be very sharp and could cause serious injury.**

**CAUTION**

*The Option Bracket and printer are connected by a harness. Be careful not to cause damage to the wires when performing the following.*

3. Remove the Option Bracket. (Figure 1)

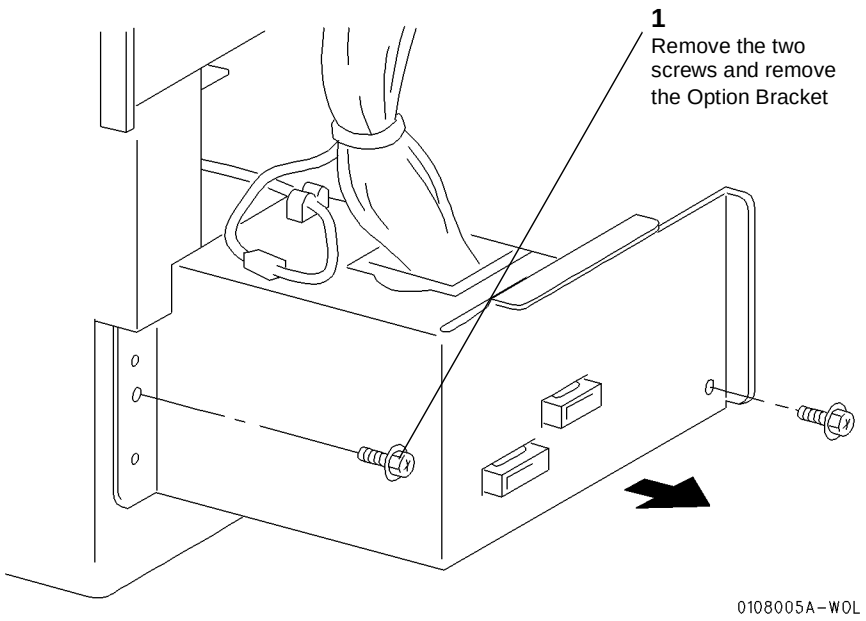


**Figure 1 Removing the Option Bracket**

4. Remove the Feed Solenoid. (Figure 2)

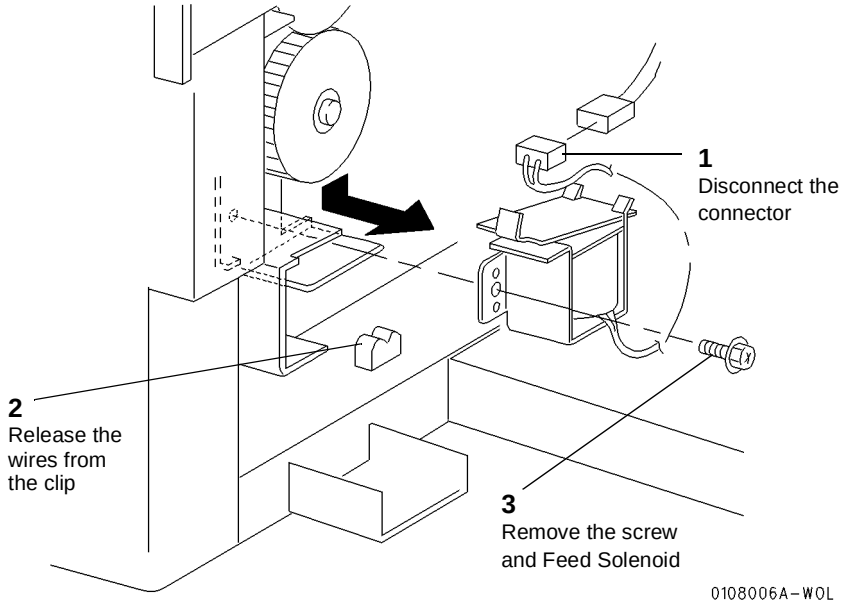


**Figure 2 Removing the Feed Solenoid**

## Replacement

1. Perform the procedure for removal in reverse.
2. Install the Feed Solenoid so that the teeth of the Feed Gear mesh with the armature.

# REP 8.6 Bypass Tray/Registration Assembly

## Parts List on PL 4.1

## Removal

### WARNING

**To avoid personal injury or shock, do not perform repair activities with the power switch on or electrical power applied to the machine.**

1. Switch off the machine power and disconnect the machine Power Cord.
2. Remove the Bypass Tray/Registration Assembly. (Figure 1)

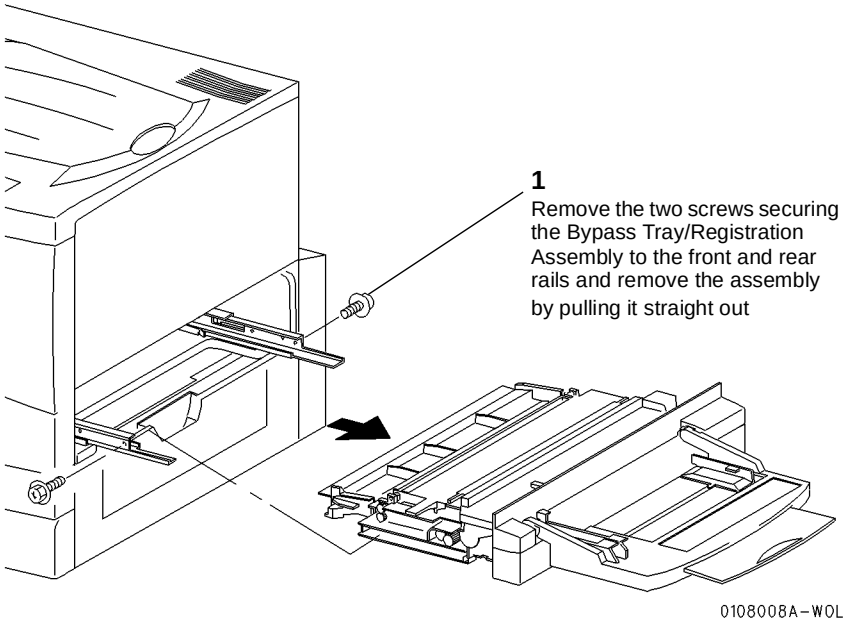
1
Remove the two screws securing the Bypass Tray/Registration Assembly to the front and rear rails and remove the assembly by pulling it straight out
0108008A-WOL

**Figure 1 Removing the Bypass Tray/Registration Assembly**

## Replacement

1. Perform the procedure for removal in reverse.

# REP 8.7 Bypass Tray Feed Assembly

## Parts List on PL 4.1

## Removal

### WARNING

**To avoid personal injury or shock, do not perform repair activities with the power switch on or electrical power applied to the machine.**

1. Switch off the machine power and disconnect the machine Power Cord.
2. Remove the Bypass Tray/Registration Assembly. (REP 8.6)

**CAUTION**

*The Bypass Tray Feed Assembly and Base Assembly are connected by a harness. Be careful not cause damage to the wires when performing the following.*

3. Remove the Bypass Tray Feed Assembly. (Figure 1)

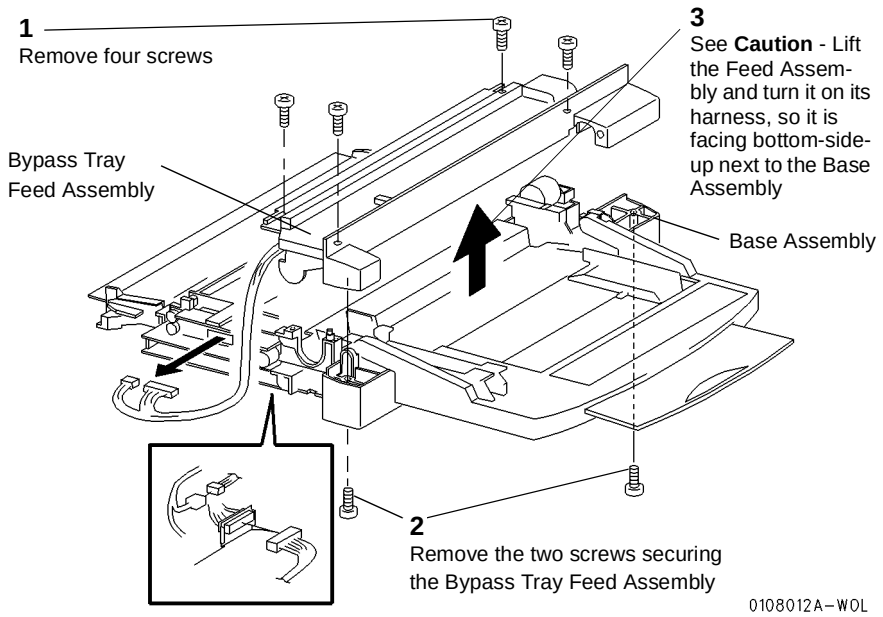
1
Remove four screws
3
See **Caution** - Lift the Feed Assembly and turn it on its harness, so it is facing bottom-side-up next to the Base Assembly
Bypass Tray Feed Assembly
Base Assembly
2
Remove the two screws securing the Bypass Tray Feed Assembly
0108012A-WOL

**Figure 1 Accessing the Bypass Tray Feed Assembly**

## Replacement

1. Perform the procedure for removal in reverse.

# REP 8.8 Tray Housing

## Parts List on PL 4.1

## Removal

### WARNING

**To avoid personal injury or shock, do not perform repair activities with the power switch on or electrical power applied to the machine.**

1. Switch off the machine power and disconnect the machine Power Cord.
2. Remove the Bypass Tray/Registration Assembly. (REP 8.6)
3. Remove the Bypass Tray Feed Assembly. (REP 8.7)
4. Remove the Tray Housing. (Figure 1).

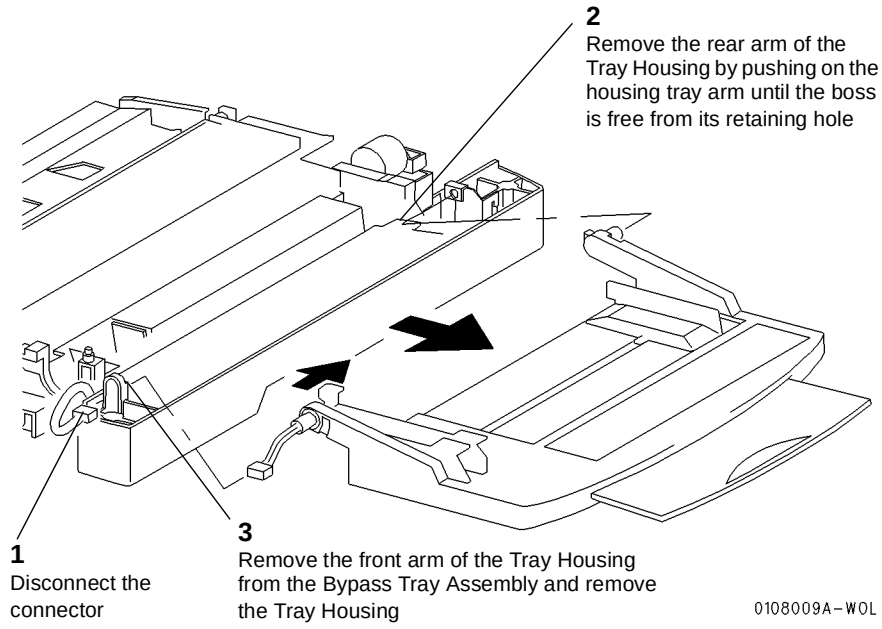
2
Remove the rear arm of the Tray Housing by pushing on the housing tray arm until the boss is free from its retaining hole
1
Disconnect the connector
3
Remove the front arm of the Tray Housing from the Bypass Tray Assembly and remove the Tray Housing
0108009A-WOL

**Figure 1 Removing the Tray Housing**

## Replacement

1. Install from the front arm, while being careful not to pinch the harness.

# REP 8.9 Main Paper Handling Frame Assembly

## Parts List on PL 4.6

## Removal

### WARNING

**To avoid personal injury or shock, do not perform repair activities with the power switch on or electrical power applied to the machine.**

1. Switch off the machine power and disconnect the machine Power Cord.
2. Remove the Bypass Tray/Registration Assembly. (REP 8.6)
3. Remove the Main Paper Handling Frame Assembly. (Figure 1)

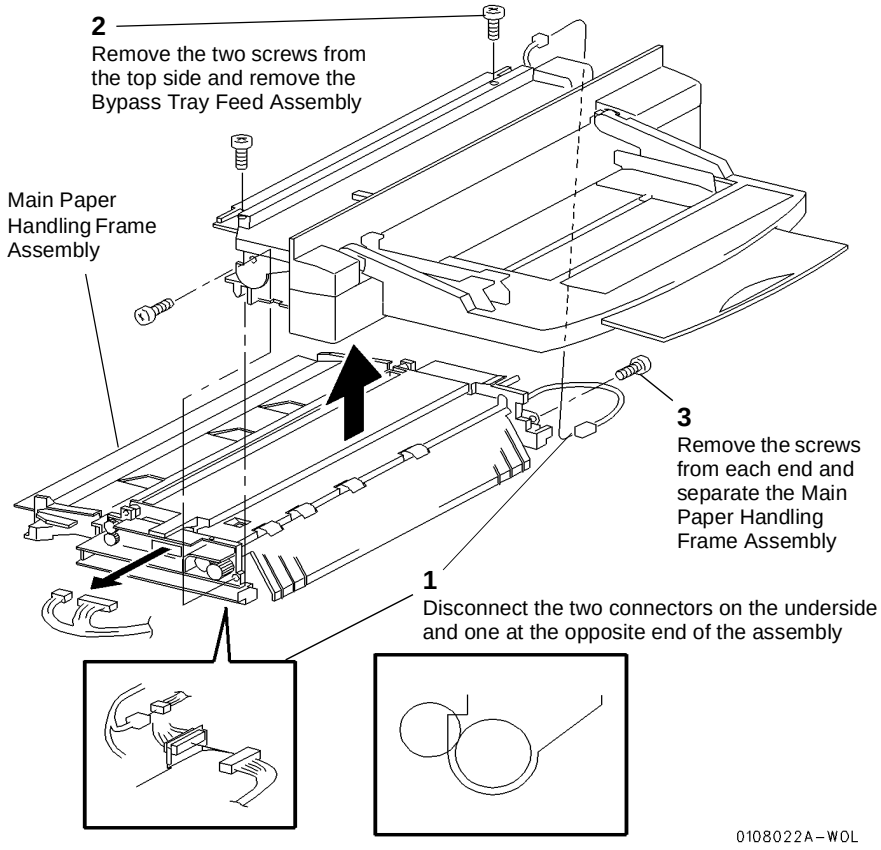
2
Remove the two screws from the top side and remove the Bypass Tray Feed Assembly
Main Paper Handling Frame Assembly
3
Remove the screws from each end and separate the Main Paper Handling Frame Assembly
1
Disconnect the two connectors on the underside and one at the opposite end of the assembly
0108022A-WOL

**Figure 1 Removing the Main Paper Handling Frame Assembly**

## Replacement

1. Perform the procedure for removal in reverse.

# REP 8.10 Lift Plate Sensor

## Parts List on PL 4.2

## Removal

### WARNING

**To avoid personal injury or shock, do not perform repair activities with the power switch on or electrical power applied to the machine.**

1. Switch off the machine power and disconnect the machine Power Cord.
2. Remove the Bypass Tray/Registration Assembly. (REP 8.6)
3. Remove the Bypass Tray Feed Assembly (REP 8.7)
4. Remove the Tray Housing (REP 8.8)
5. Remove the Lift Frame Assembly. (REP 8.11)
6. Remove the Lift Plate Sensor. (Figure 1)

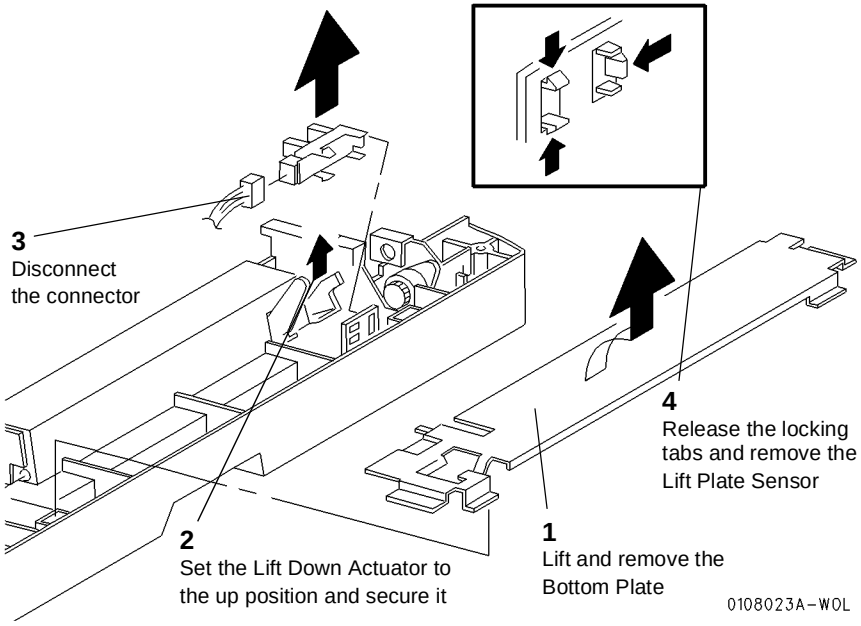
3
Disconnect the connector
2
Set the Lift Down Actuator to the up position and secure it
1
Lift and remove the Bottom Plate
4
Release the locking tabs and remove the Lift Plate Sensor
0108023A-WOL

**Figure 1 Removing the Lift Plate Sensor**

## Replacement

1. Perform the procedure for removal in reverse.

# REP 8.11 Lift Frame Assembly

## Parts List on PL 4.2

## Removal

### WARNING

**To avoid personal injury or shock, do not perform repair activities with the power switch on or electrical power applied to the machine.**

1. Switch off the machine power and disconnect the machine Power Cord.
2. Remove the Bypass Tray/Registration Assembly. (REP 8.6)
3. Remove the Bypass Tray Feed Assembly (REP 8.7)
4. Remove the Tray Housing (REP 8.8)
5. Remove the Lift Frame Assembly. (Figure 1)

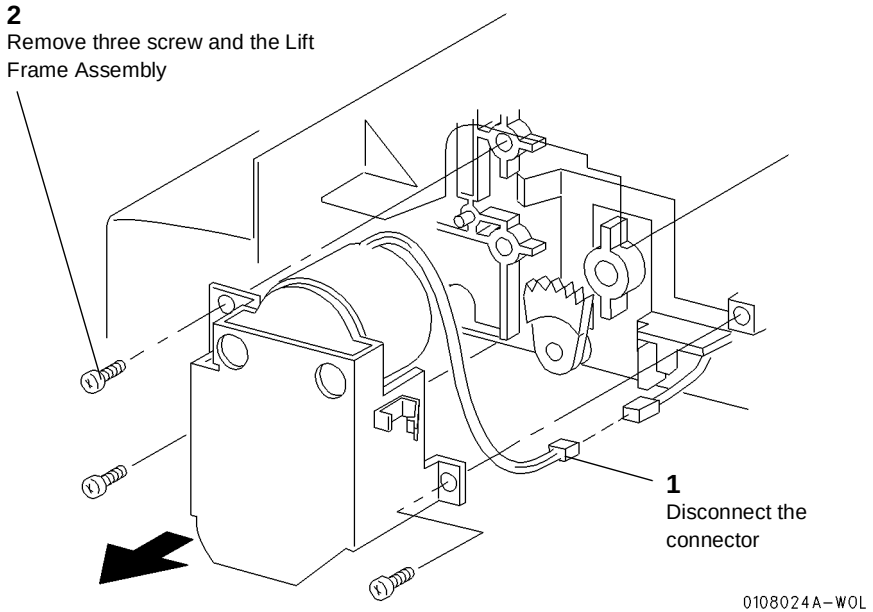


**Figure 1 Removing the Lift Frame Assembly**

## Replacement

1. Perform the procedure for removal in reverse.

***NOTE:*** *Install so that the boss of the Bypass Tray Frame is aligned with the hole on the left side of the Lift Frame Assembly.*

# REP 8.12 Tray Empty Sensor

## Parts List on PL 4.3

## Removal

### WARNING

**To avoid personal injury or shock, do not perform repair activities with the power switch on or electrical power applied to the machine.**

1. Switch off the machine power and disconnect the machine Power Cord.
2. Remove the Bypass Tray/Registration Assembly. (REP 8.6)
3. Remove the Bypass Tray Feed Assembly. (REP 8.7)
4. Remove the Tray Empty Sensor. (Figure 1)

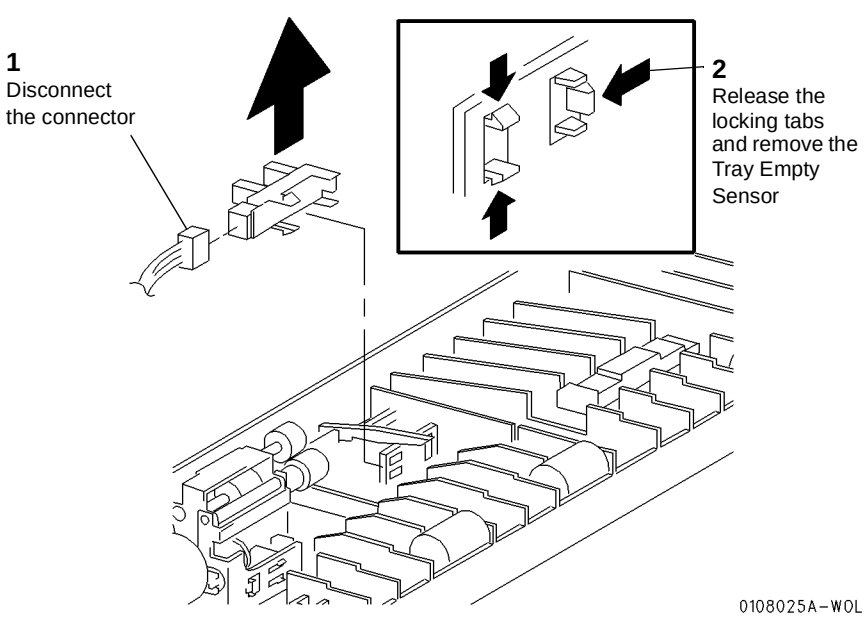


**Figure 1 Removing the Tray Empty Sensor**

## Replacement

1. Perform the procedure for removal in reverse.

# REP 8.13 Pitch Sensor

## Parts List on PL 4.3

## Removal

### WARNING

**To avoid personal injury or shock, do not perform repair activities with the power switch on or electrical power applied to the machine.**

1. Switch off the machine power and disconnect the machine Power Cord.
2. Remove the Bypass Tray/Registration Assembly. (REP 8.6)
3. Remove the Bypass Tray Feed Assembly. (REP 8.7)
4. Remove the Pitch Sensor (Figure 1)

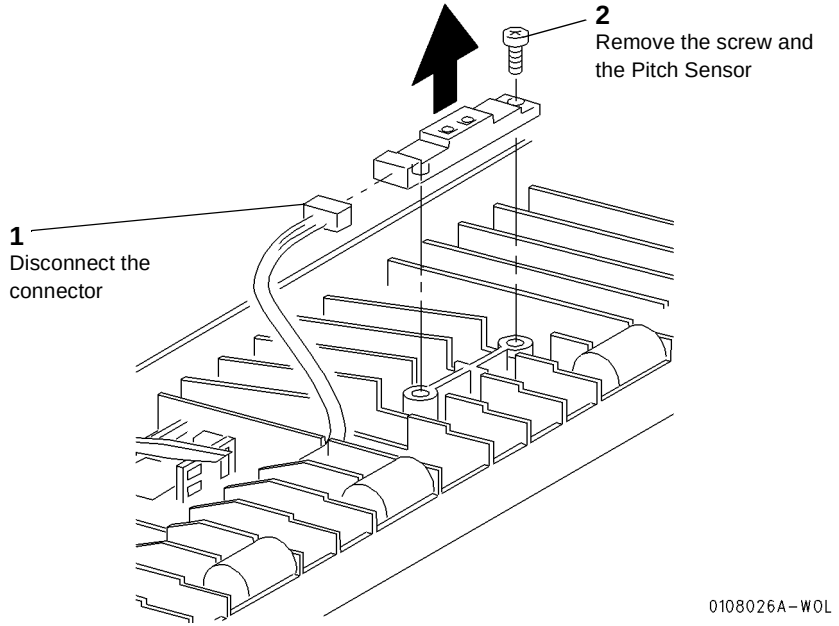


**Figure 1 Removing the Pitch Sensor**

## Replacement

1. Perform the procedure for removal in reverse.

# REP 8.14 Stack Height Sensor

## Parts List on PL 4.4

## Removal

### WARNING

**To avoid personal injury or shock, do not perform repair activities with the power switch on or electrical power applied to the machine.**

1. Switch off the machine power and disconnect the machine Power Cord.
2. Remove the Bypass Tray/Registration Assembly. (REP 8.6)
3. Remove the Bypass Tray Feed Assembly. (REP 8.7)
4. Remove the Top Frame. (Figure 1)

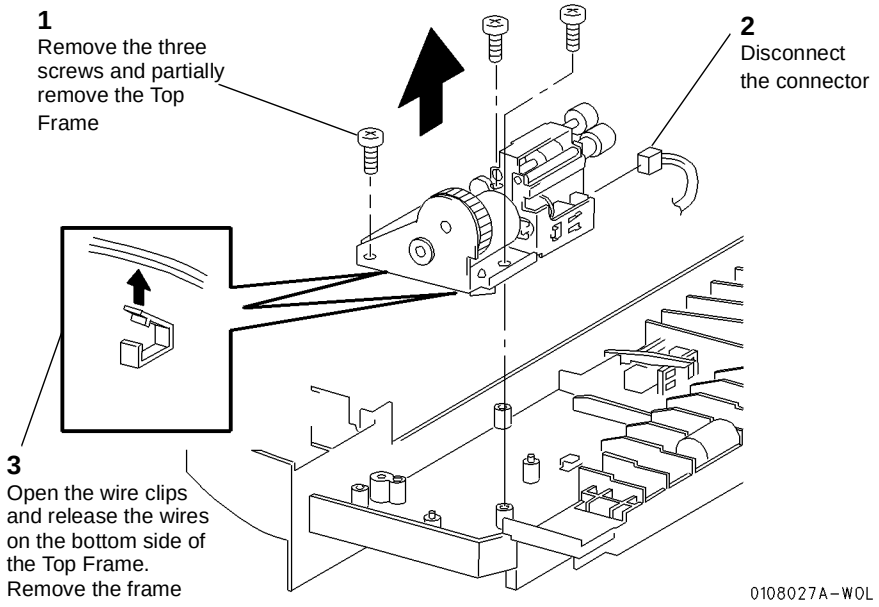
1
Remove the three screws and partially remove the Top Frame
2
Disconnect the connector
3
Open the wire clips and release the wires on the bottom side of the Top Frame. Remove the frame
0108027A-WOL

**Figure 1 Removing the Top Frame**

5. Remove the Stack Height Sensor. (Figure 1)

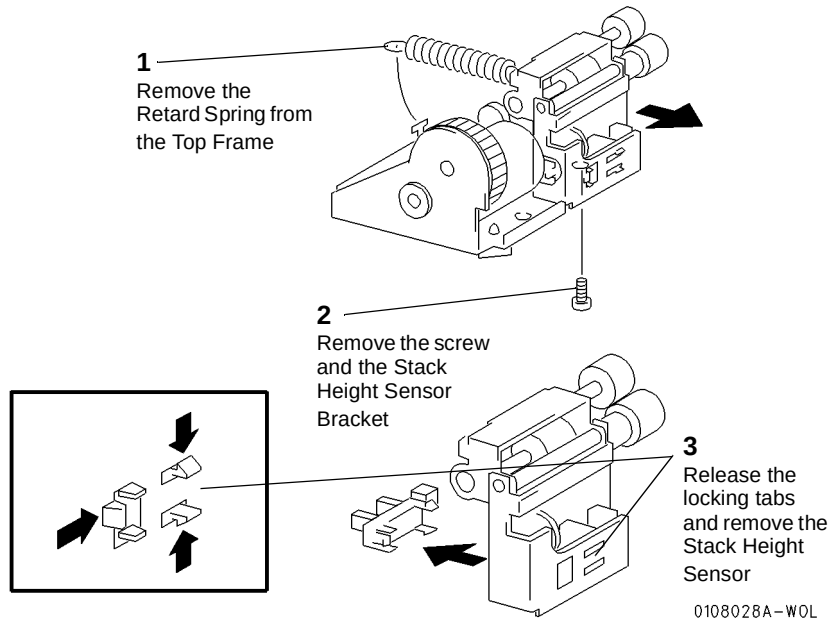
1
Remove the Retard Spring from the Top Frame
2
Remove the screw and the Stack Height Sensor Bracket
3
Release the locking tabs and remove the Stack Height Sensor
0108028A-WOL

**Figure 2 Removing the Stack Height Sensor**

## Replacement

1. Perform the procedure for removal in reverse.

# REP 8.15 Preregistration Clutch

## Parts List on PL 4.6

## Removal

### WARNING

**To avoid personal injury or shock, do not perform repair activities with the power switch on or electrical power applied to the machine.**

1. Switch off the machine power and disconnect the machine Power Cord.
2. Remove the Bypass Tray/Registration Assembly. (REP 8.6)
3. Remove the Main Paper Handling Assembly. (REP 8.9)
4. Remove the Preregistration Clutch. (Figure 1)

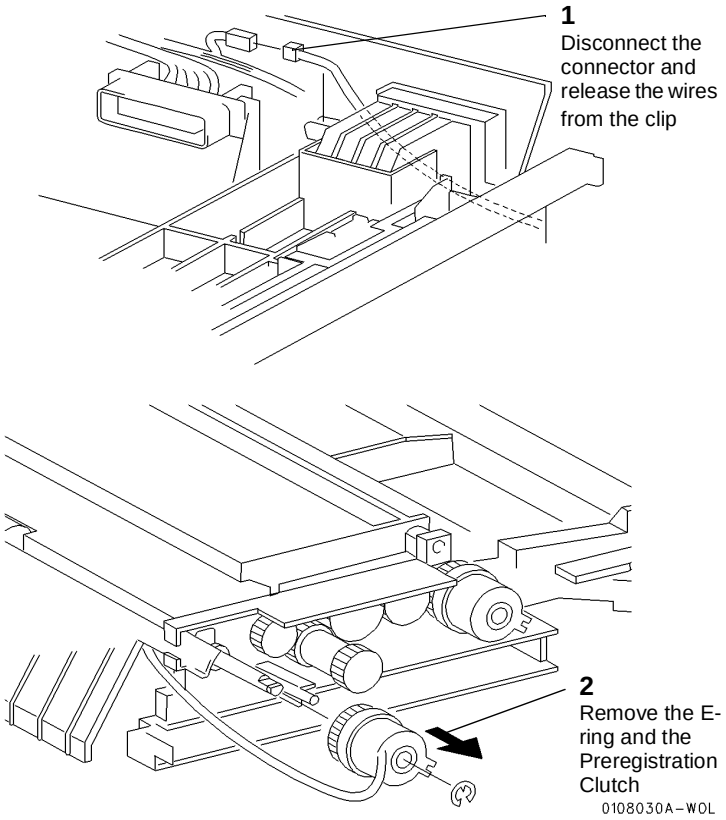
1
Disconnect the connector and release the wires from the clip
2
Remove the E-ring and the Preregistration Clutch
0108030A-WOL

**Figure 1 Removing the Preregistration Clutch**

## Replacement

1. Perform the procedure for removal in reverse.

# REP 8.16 Preregistration Roll

## Parts List on PL 4.7

## Removal

### WARNING

**To avoid personal injury or shock, do not perform repair activities with the power switch on or electrical power applied to the machine.**

1. Switch off the machine power and disconnect the machine Power Cord.
2. Remove the Bypass Tray/Registration Assembly. (REP 8.6)
3. Remove the Main Paper Handling Frame Assembly. (REP 8.9)
4. Remove the Preregistration Clutch. (REP 8.15)
5. Remove the Preregistration Roll. (Figure 1)

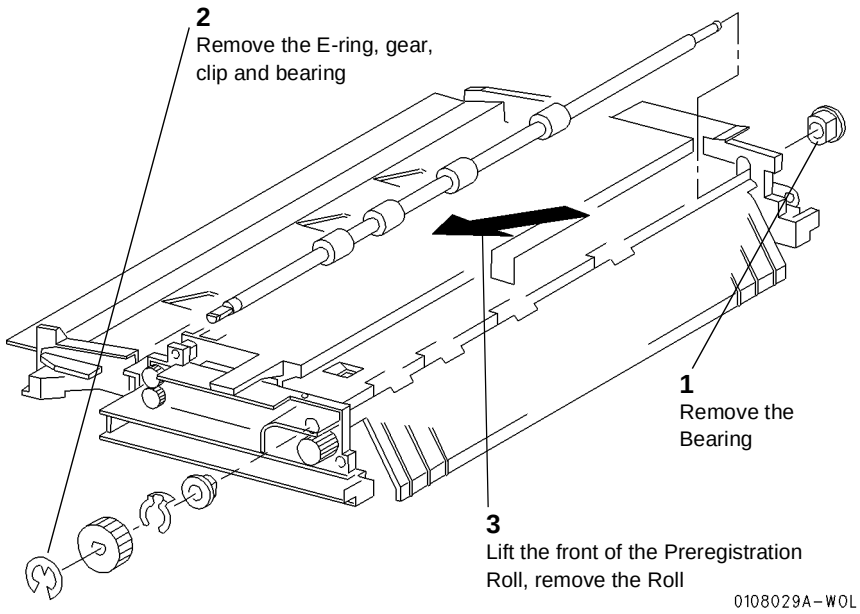


**Figure 1 Removing the Preregistration Roll**

## Replacement

1. Perform the procedure for removal in reverse.

# REP 8.17 Registration Clutch

## Parts List on PL 4.7

## Removal

### WARNING

**To avoid personal injury or shock, do not perform repair activities with the power switch on or electrical power applied to the machine.**

1. Switch off the machine power and disconnect the machine Power Cord.
2. Remove the Bypass Tray/Registration Assembly. (REP 8.6)
3. Remove the Main Paper Handling Assembly. (REP 8.9)
4. Remove the Registration Clutch. (Figure 1)

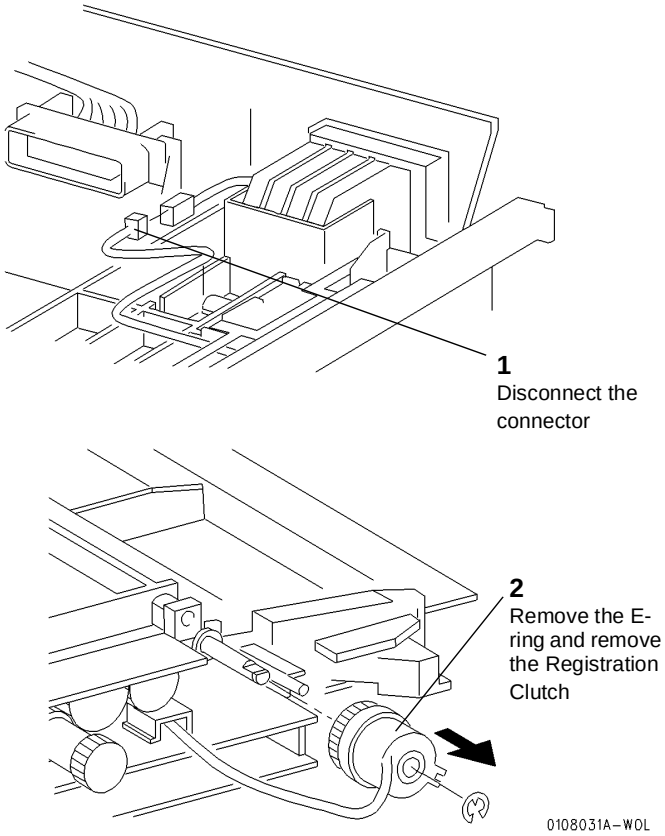


**Figure 1 Removing the Registration Clutch**

## Replacement

1. Perform the procedure for removal in reverse.

# REP 8.18 Registration Rubber Roll

## Parts List on PL 4.7

## Removal

### WARNING

**To avoid personal injury or shock, do not perform repair activities with the power switch on or electrical power applied to the machine.**

1. Switch off the machine power and disconnect the machine Power Cord.
2. Remove the Bypass Tray/Registration Assembly. (REP 8.6)
3. Remove the Main Paper Handling Assembly. (REP 8.9)
4. Remove the Registration Clutch. (REP 8.17)
5. Remove the Registration Rubber Roll. (Figure 1)

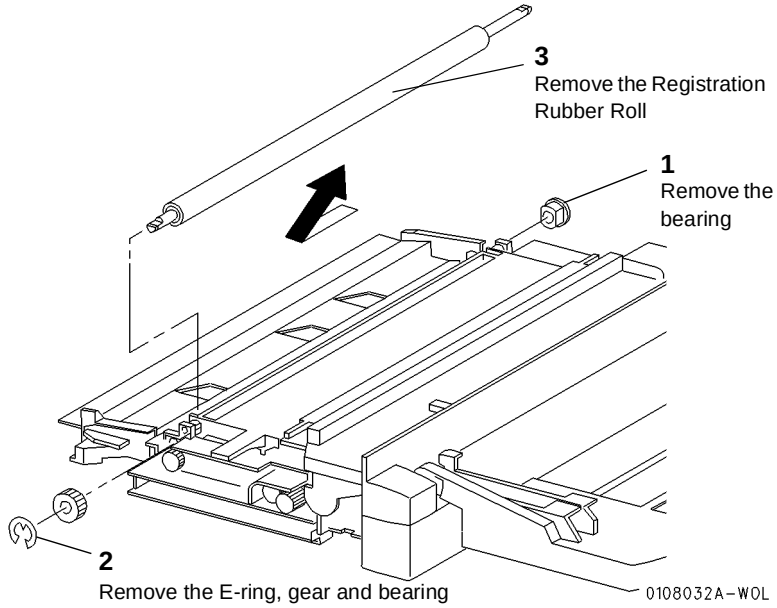


**Figure 1 Removing the Registration Rubber Roll**

## Replacement

1. Perform the procedure for removal in reverse.

# REP 8.19 Size Switch PWB

## Parts List on PL 13.3

## Removal

### WARNING

**To avoid personal injury or shock, do not perform repair activities with the power switch on or electrical power applied to the machine.**

1. Switch off the machine power and disconnect the machine Power Cord.
2. Remove the Feeder Rear Cover.

***NOTE:*** *Note the positioning of the bracket prior to removing it.*

3. Remove the Size Switch PWB. (Figure 1)

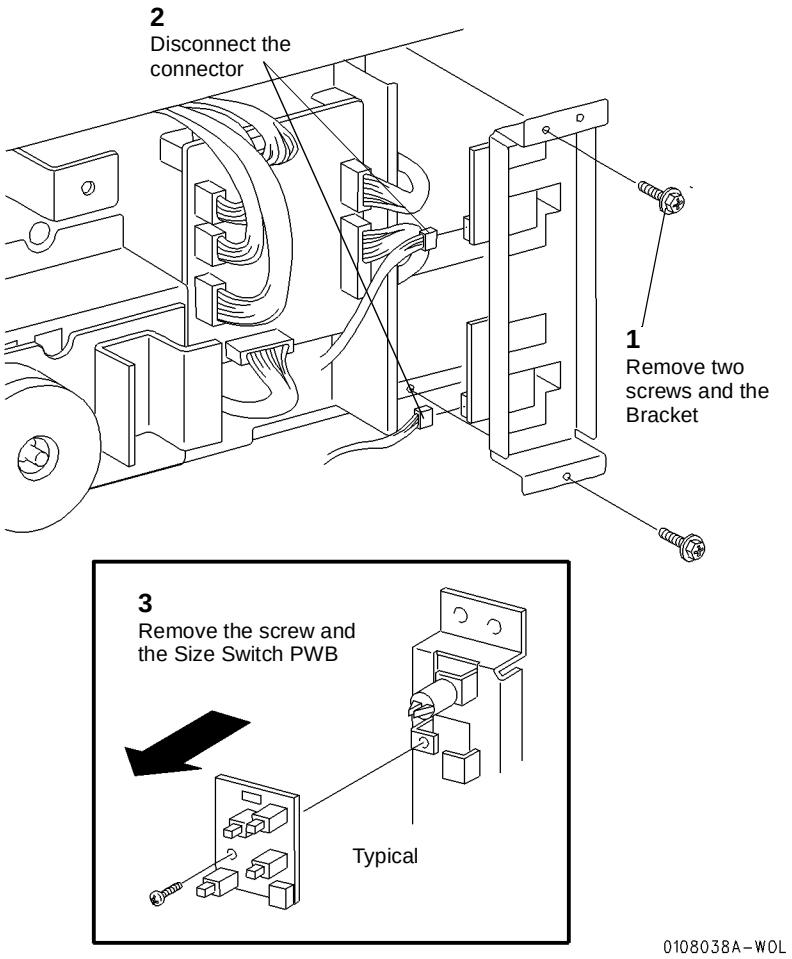


**Figure 1 Removing the Size Switch PWB**

## Replacement

1. Perform the removal procedure in reverse.
2. Return the bracket to the exact position from which it was removed.

# REP 8.20 Feeder Motor

## Parts List on PL 13.4

## Removal

### WARNING

**To avoid personal injury or shock, do not perform repair activities with the power switch on or electrical power applied to the machine.**

1. Switch off the machine power and disconnect the machine Power Cord.
2. Remove the Feeder Rear Cover.
3. Remove the Feeder Motor. (Figure 1)

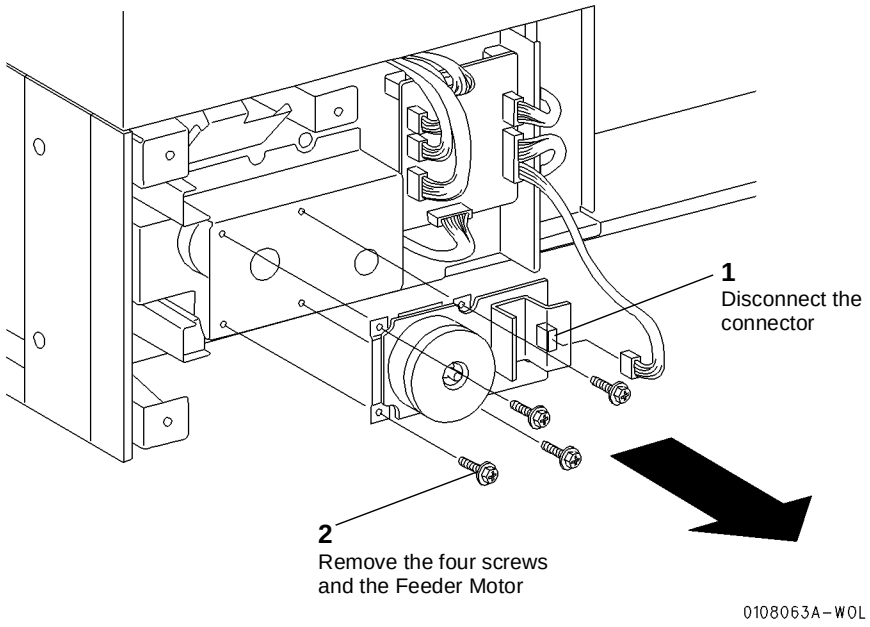


**Figure 1 Removing the Feeder Motor**

## Replacement

1. Perform the removal procedure in reverse.

# REP 8.21 Feeder PWB

## Parts List on PL 13.4

## Removal

### WARNING

**To avoid personal injury or shock, do not perform repair activities with the power switch on or electrical power applied to the machine.**

1. Switch off the machine power and disconnect the machine Power Cord.
2. Remove the Feeder Rear Cover.

### CAUTION

*The PWB components are highly susceptible to damage from electrostatic discharge (ESD) and extreme care should be used when handling these components. Use of the ESD Field Service Kit is required.*

3. Remove the Feeder PWB. (Figure 1)

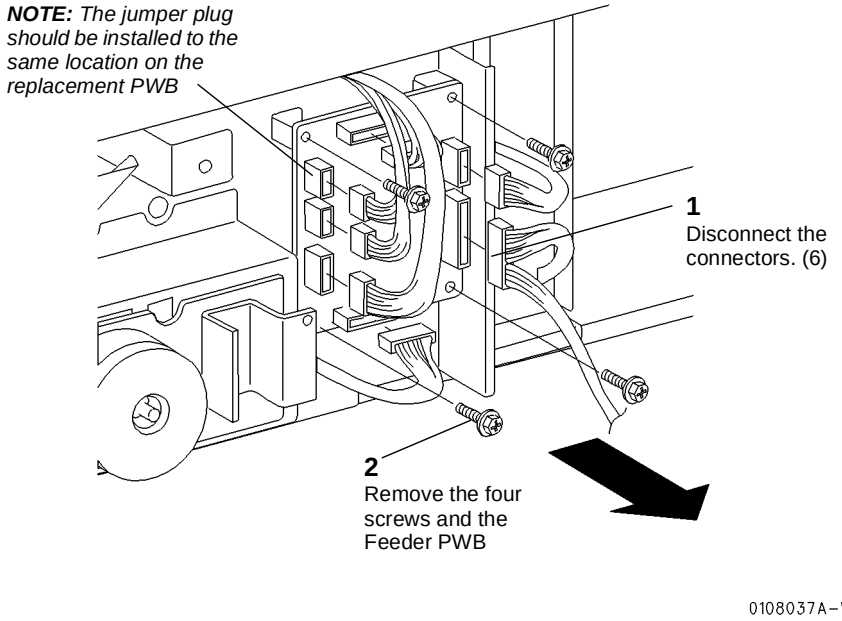
NOTE: The jumper plug should be installed to the same location on the replacement PWB
1
Disconnect the connectors. (6)
2
Remove the four screws and the Feeder PWB
0108037A-WOL

**Figure 1 Removing the Feeder PWB**

## Replacement

1. Install the jumper plug from the removed PWB to the same location on the replacement PWB. (See the Note Figure 1.)
2. Perform the removal procedure in reverse.

# REP 8.22 Feeder Drive Unit/Low Paper Sensor

## Parts List on PL 13.4

## Removal

### WARNING

**To avoid personal injury or shock, do not perform repair activities with the power switch on or electrical power applied to the machine.**

1. Switch off the machine power and disconnect the machine Power Cord.
2. Remove the Feeder Rear Cover.
3. Remove the Feeder Drive Unit. (Figure 1)

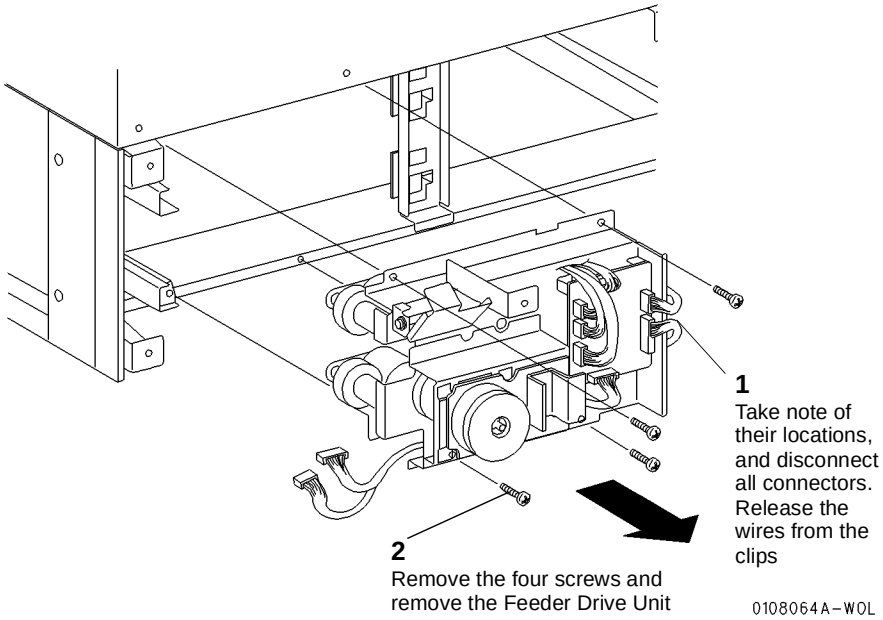
1
Take note of their locations, and disconnect all connectors. Release the wires from the clips
2
Remove the four screws and remove the Feeder Drive Unit
0108064A-WOL

**Figure 1 Removing the Feeder Drive Unit**

4. Remove the Low Paper Sensor. (Figure 2)

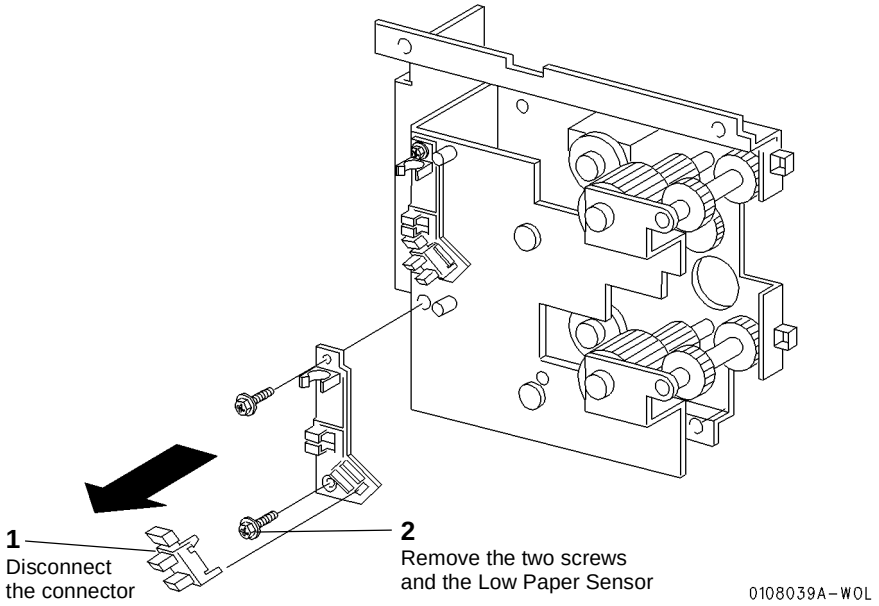


**Figure 2 Removing the Low Paper Sensor**

## Replacement

1. Perform the removal procedure in reverse.

# REP 8.23 Paper Feeder Assembly

## Parts List on PL 13.5

## Removal

### WARNING

**To avoid personal injury or shock, do not perform repair activities with the power switch on or electrical power applied to the machine.**

1. Switch off the machine power and disconnect the machine Power Cord.
2. Remove the Right Lower Cover. (REP 14.11)
3. Remove the Feeder Right Cover. Remove the Feeder Chute. (Figure 1)

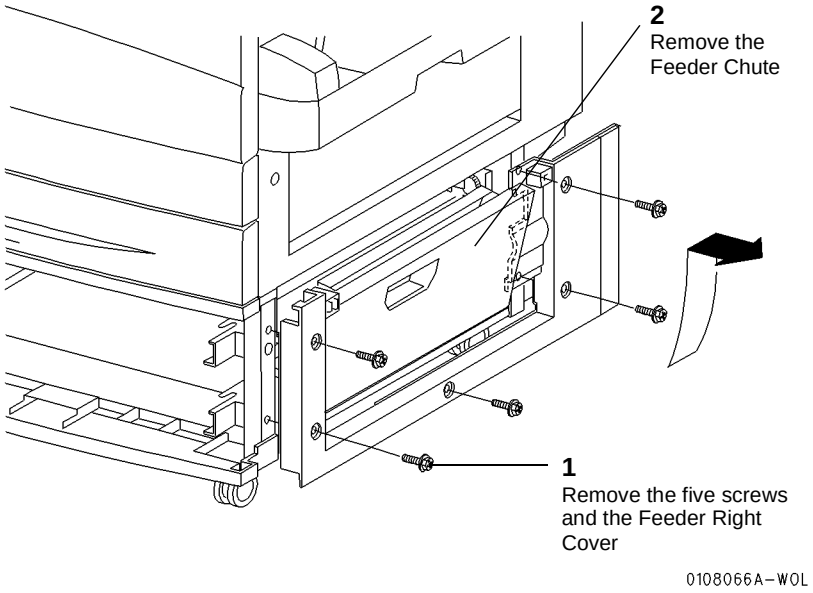


**Figure 1 Removing the Feeder Right Cover / Feeder Chute**

4. Remove the Paper Feeder Assembly. (Figure 2)

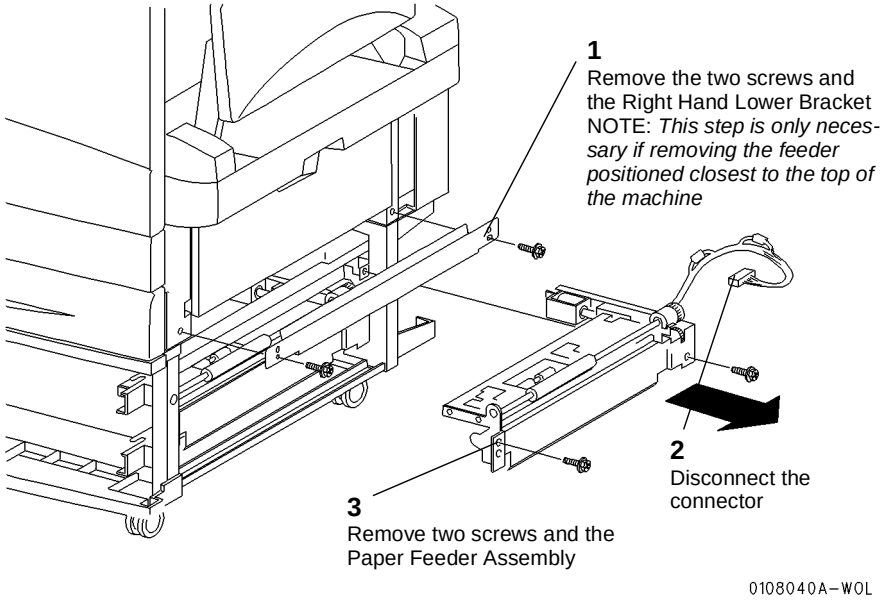
1
Remove the two screws and the Right Hand Lower Bracket
NOTE: *This step is only necessary if removing the feeder positioned closest to the top of the machine*
2
Disconnect the connector
3
Remove two screws and the Paper Feeder Assembly
0108040A-WOL

**Figure 2 Removing the Paper Feeder Assembly**

## Replacement

1. Perform the removal procedure in reverse.

# REP 8.24 Takeaway Clutch

## Parts List on PL 13.6

## Removal

### WARNING

**To avoid personal injury or shock, do not perform repair activities with the power switch on or electrical power applied to the machine.**

1. Switch off the machine power and disconnect the machine Power Cord.
2. Remove the Paper Feeder Assembly. (REP 8.23)
3. Remove the Takeaway Clutch. (Figure 1)

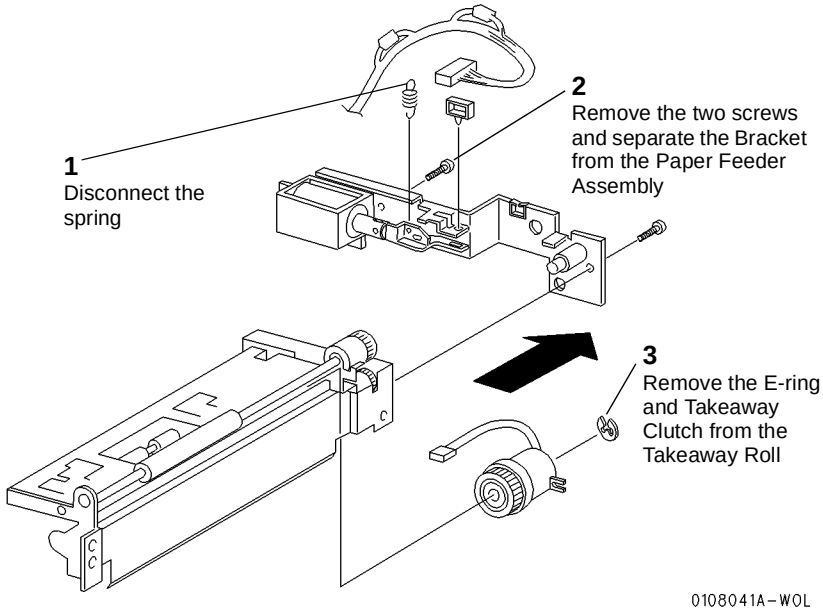
1
Disconnect the spring
2
Remove the two screws and separate the Bracket from the Paper Feeder Assembly
3
Remove the E-ring and Takeaway Clutch from the Takeaway Roll
0108041A-WOL

**Figure 1 Removing the Takeaway Clutch**

## Replacement

1. Perform the removal procedure in reverse.

# REP 8.25 Nudger Solenoid

## Parts List on PL 13.6

## Removal

### WARNING

**To avoid personal injury or shock, do not perform repair activities with the power switch on or electrical power applied to the machine.**

1. Switch off the machine power and disconnect the machine Power Cord.
2. Remove the Paper Feeder Assembly. (REP 8.23)
3. Remove the Nudger Solenoid. (Figure 1)

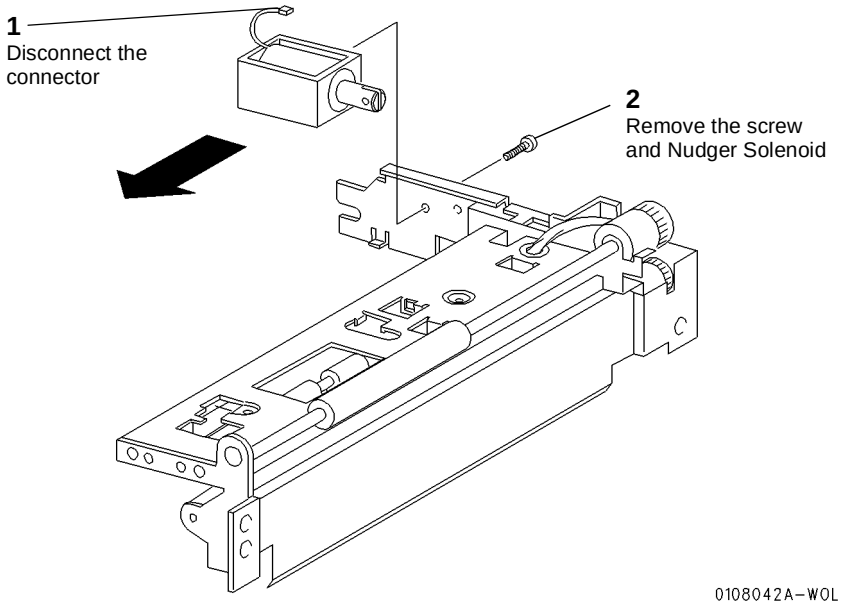


**Figure 1 Removing the Nudger Solenoid**

## Replacement

1. Perform the removal procedure in reverse.
2. Make sure the solenoid plunger is properly seated to the Link.

# REP 8.26 Turn Clutch

## Parts List on PL 13.6

## Removal

### WARNING

**To avoid personal injury or shock, do not perform repair activities with the power switch on or electrical power applied to the machine.**

1. Switch off the machine power and disconnect the machine Power Cord.
2. Remove the Paper Feeder Assembly. (REP 8.23)
3. Remove the Turn Clutch. (Figure 1)

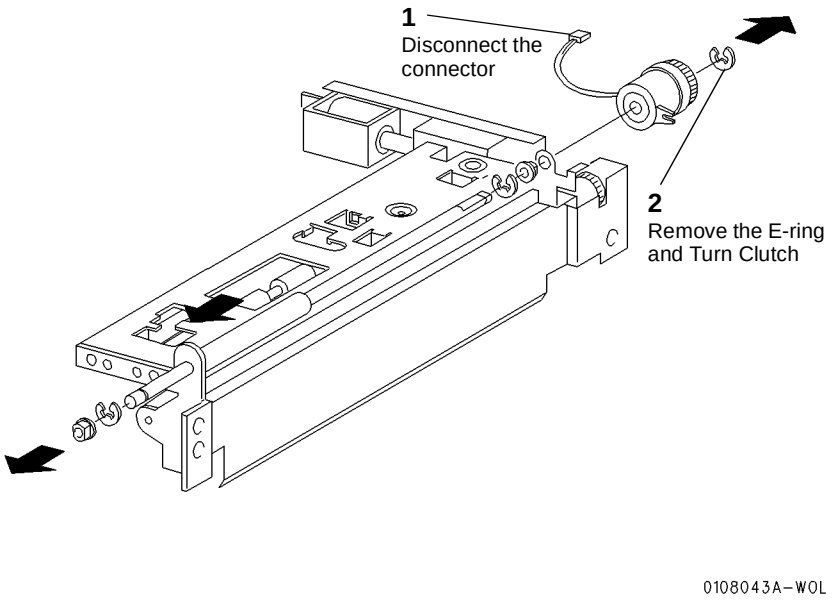


**Figure 1 Removing the Turn Clutch**

## Replacement

1. Perform the removal procedure in reverse.

# REP 8.27 Duplex Tray Assembly

## Parts List on PL 15.3

## Removal

### WARNING

**To avoid personal injury or shock, do not perform repair activities with the power switch on or electrical power applied to the machine.**

1. Switch off the machine power and disconnect the machine Power Cord.
2. Remove the Duplex Tray Assembly. (Figure 1)

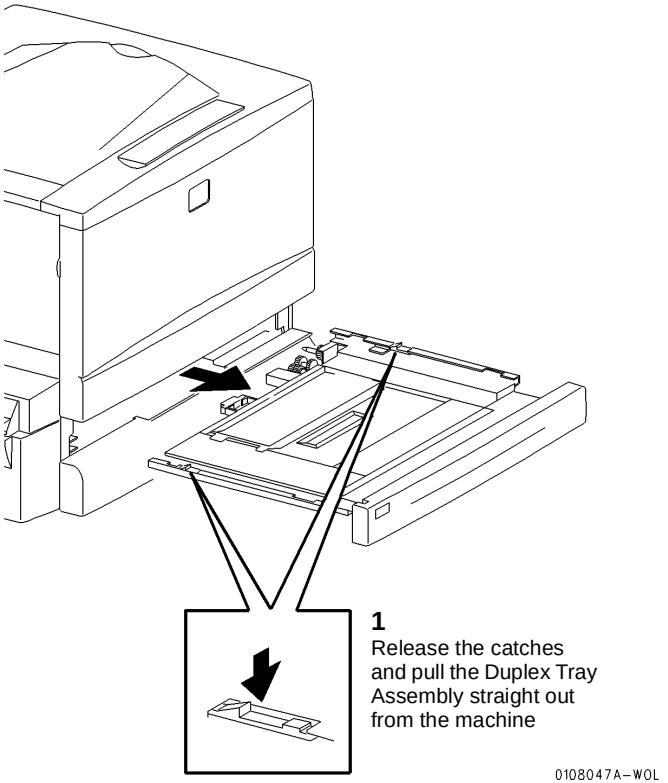


**Figure 1 Removing the Duplex Tray Assembly**

## Replacement

1. Perform the removal procedure in reverse.

# REP 8.28 Duplex Entrance Sensor

## Parts List on PL 15.3

## Removal

**WARNING**

**To avoid personal injury or shock, do not perform repair activities with the power switch on or electrical power applied to the machine.**

1. Switch off the machine power and disconnect the machine Power Cord.
2. Remove the Duplex Tray Assembly. (REP 8.27)
3. Remove the Front Cover of the Duplex Tray Assembly.
4. Remove the Duplex Registration Chute. (Figure 1)

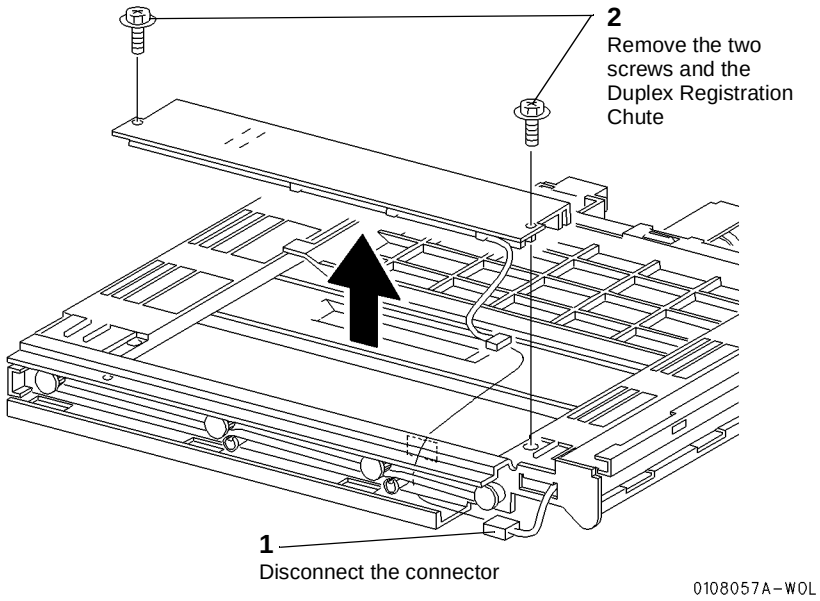


**Figure 1 Removing the Duplex Registration Chute**

5. Remove the Duplex Entrance Sensor. (Figure 2)

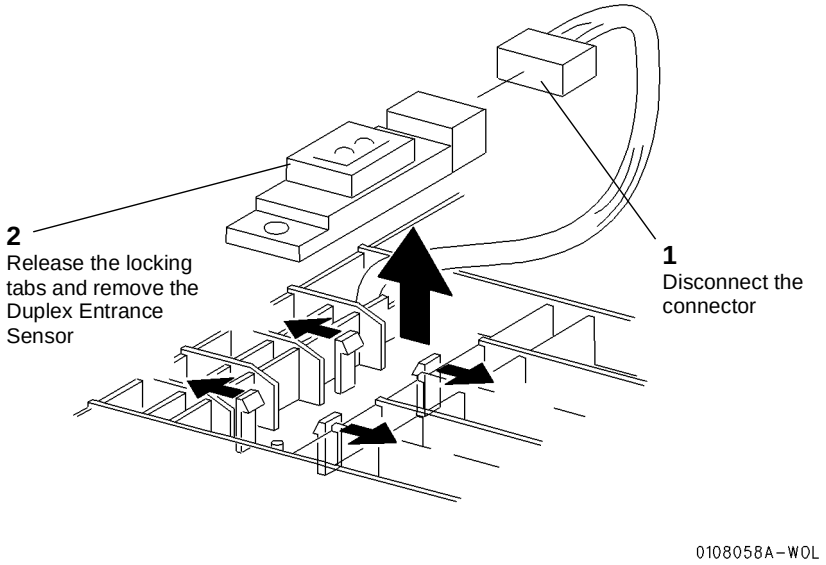


**Figure 2 Removing the Duplex Entrance Sensor**

## Replacement

1. Perform the removal procedure in reverse.

# REP 8.29 Duplex Exit Sensor

## Parts List on PL 15.3

## Removal

### WARNING

**To avoid personal injury or shock, do not perform repair activities with the power switch on or electrical power applied to the machine.**

1. Switch off the machine power and disconnect the machine Power Cord.
2. Remove the Duplex Tray Assembly. (REP 8.27)
3. Remove the Front Cover of the Duplex Tray Assembly.
4. Remove the Duplex Registration Chute. (Figure 1)

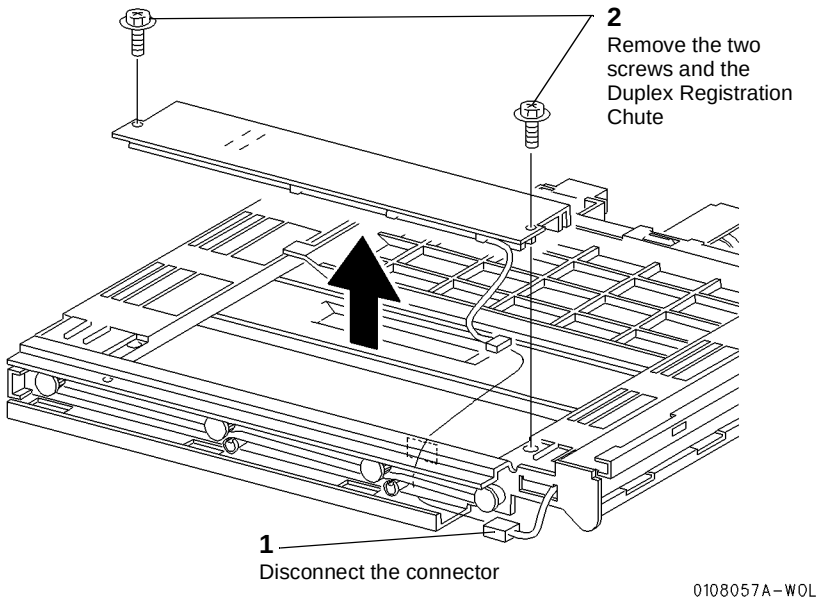


**Figure 1 Removing the Duplex Registration Chute**

5. Remove the Rail Assembly. (Figure 2)

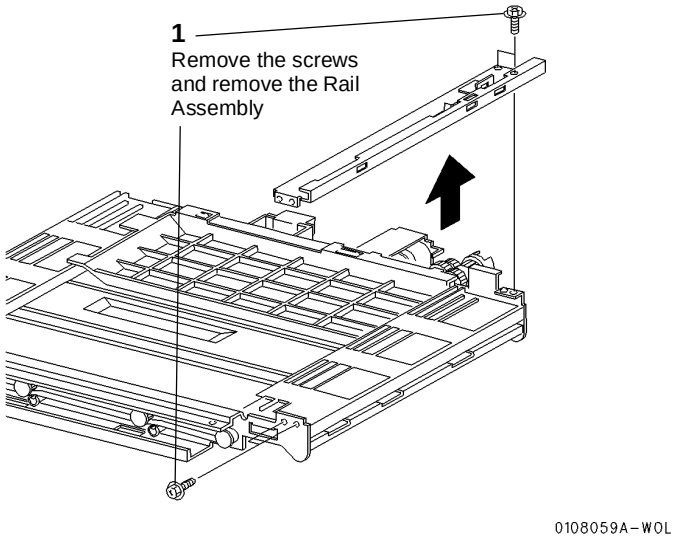


**Figure 2 Removing the Rail Assembly**

6. Remove the Chute Support. (Figure 3)

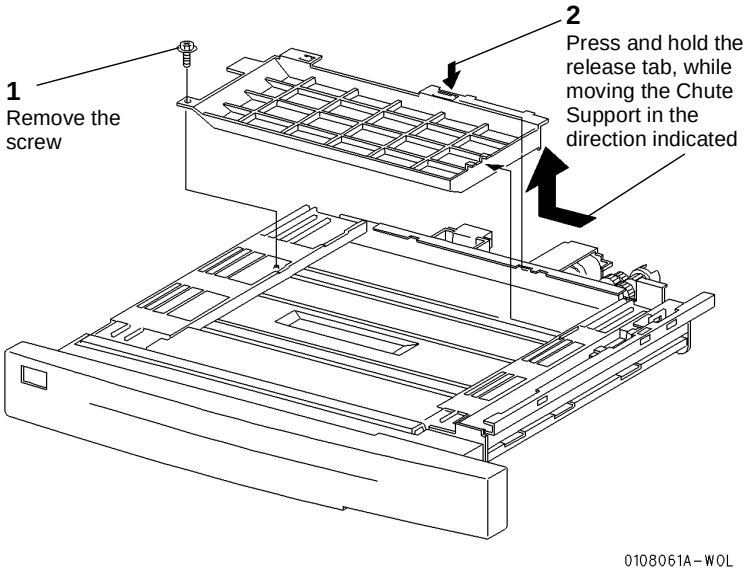
2
Press and hold the release tab, while moving the Chute Support in the direction indicated
1
Remove the screw
0108061A-WOL

**Figure 3 Removing the Chute Support**

7. Remove the Exit Chute. (Figure 4)

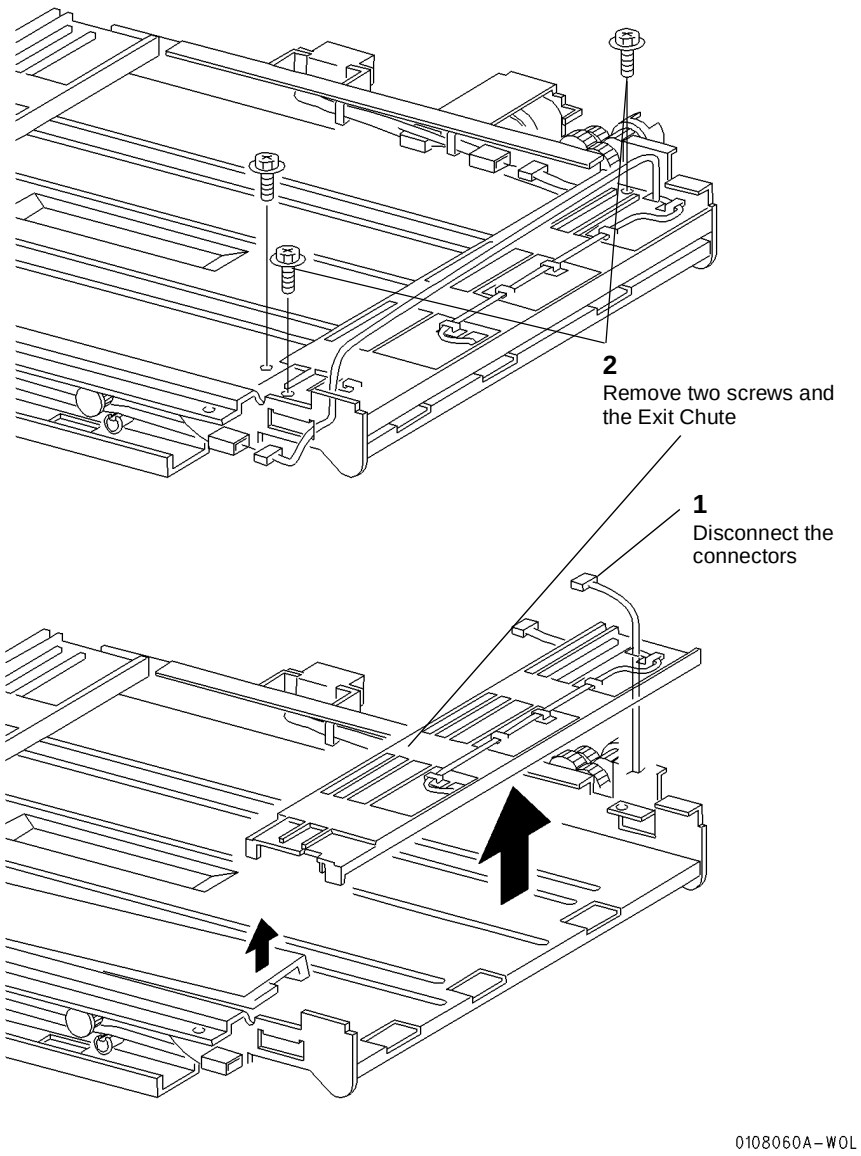


**Figure 4 Removing the Exit Chute**

8. Remove the Duplex Exit Sensor. (Figure 5)

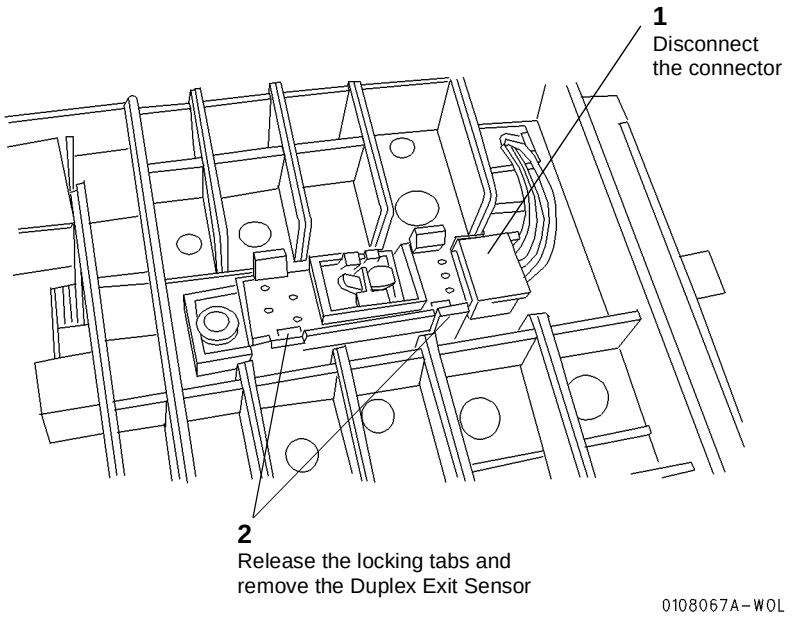


**Figure 5 Removing the Duplex Exit Sensor**

## Replacement

1. Perform the removal procedure in reverse.

# REP 8.30 Duplex Drive Clutch

## Parts List on PL 15.4

## Removal

### WARNING

**To avoid personal injury or shock, do not perform repair activities with the power switch on or electrical power applied to the machine.**

1. Switch off the machine power and disconnect the machine Power Cord.
2. Remove the Duplex Tray Assembly. (REP 8.27)
3. Remove the Duplex Drive Clutch. (Figure 1)

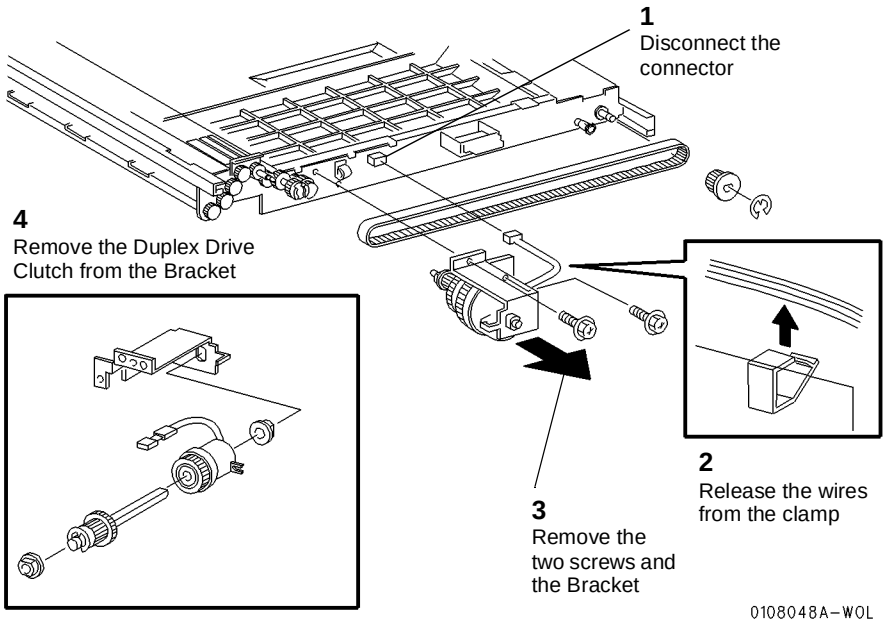


**Figure 1 Removing the Duplex Drive Clutch**

## Replacement

1. Perform the removal procedure in reverse.

# REP 8.31 Front Belt

## Parts List on PL 15.4

## Removal

### WARNING

**To avoid personal injury or shock, do not perform repair activities with the power switch on or electrical power applied to the machine.**

1. Switch off the machine power and disconnect the machine Power Cord.
2. Remove the Duplex Tray Assembly. (REP 8.27)
3. Remove the Front Cover of the Duplex Tray Assembly.
4. Remove the Front Belt. (Figure 1)

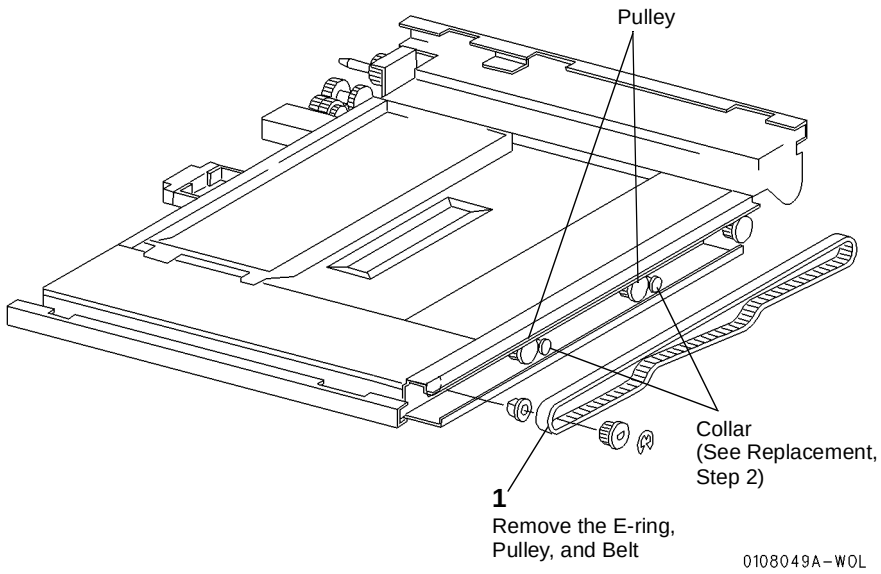


**Figure 1 Removing the Front Belt**

## Replacement

1. Perform the removal procedure in reverse.
2. When installing the belt, make sure that the bottom of the belt is dressed below the pulley and above the collar (2 places). (Figure 1)

# REP 8.32 Rear Belt

## Parts List on PL 15.4

## Removal

### WARNING

**To avoid personal injury or shock, do not perform repair activities with the power switch on or electrical power applied to the machine.**

1. Switch off the machine power and disconnect the machine Power Cord.
2. Remove the Duplex Tray Assembly. (REP 8.27)
3. Remove the Rear Belt. (Figure 1)

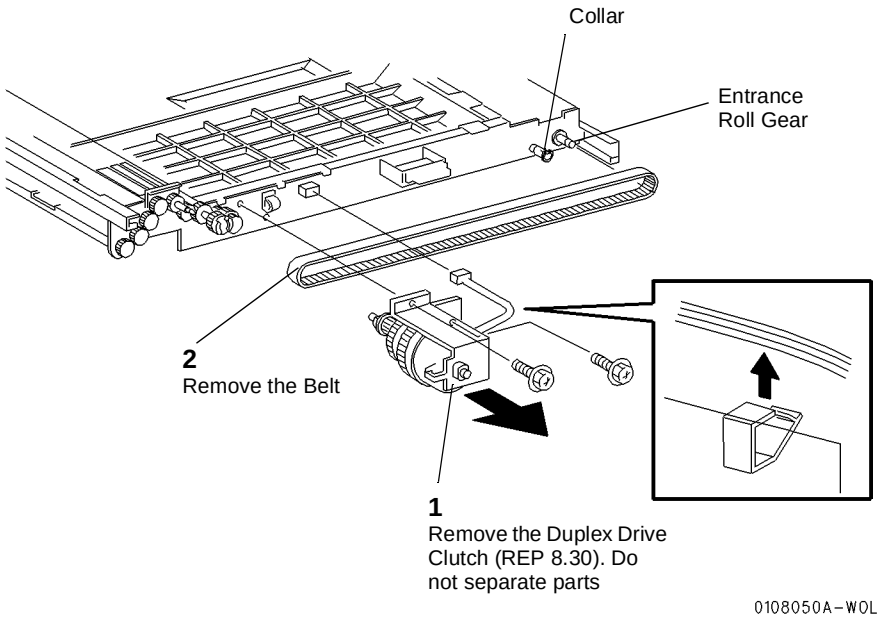


**Figure 1 Removing the Rear Belt**

## Replacement

1. Perform the removal procedure in reverse.
2. When installing the belt, make sure that the belt is dressed above the collar near the Entrance Roll Gear (Figure 1).

# REP 8.33 Inverter Upper Assembly

## Parts List on PL 15.2

## Removal

### WARNING

**To avoid personal injury or shock, do not perform repair activities with the power switch on or electrical power applied to the machine.**

1. Switch off the machine power and disconnect the machine Power Cord.
2. Remove the Inverter Upper Assembly. (Figure 1)

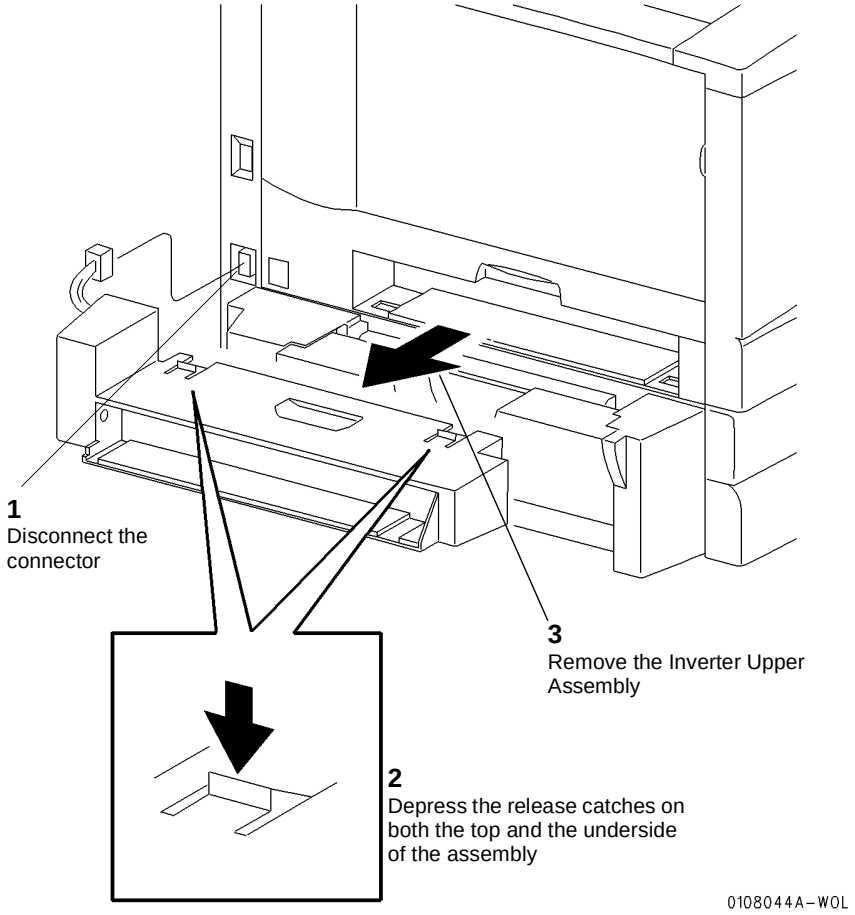


**Figure 1 Removing the Inverter Upper Assembly**

## Replacement

1. Perform the removal procedure in reverse.

# REP 8.34 Exit Roll

## Parts List on PL 15.2

## Removal

### WARNING

**To avoid personal injury or shock, do not perform repair activities with the power switch on or electrical power applied to the machine.**

1. Switch off the machine power and disconnect the machine Power Cord.
2. Remove the Inverter Upper Assembly. (REP 8.33)
3. Remove the Exit Cover. (Figure 1)

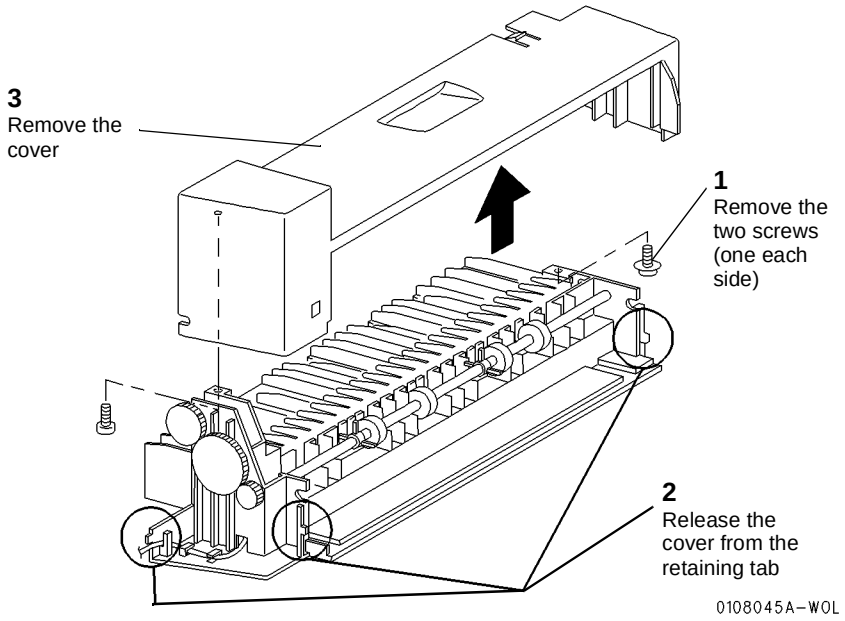


**Figure 1 Removing the Exit Cover**

4. Remove the Exit Roll. (Figure 2)

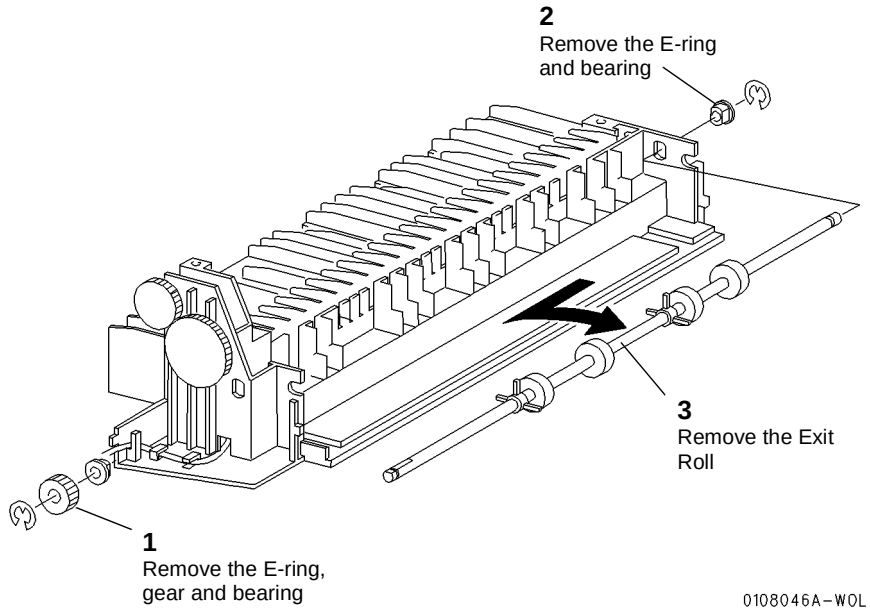


**Figure 2 Removing the Exit Roll**

## Replacement

1. Perform the removal procedure in reverse.

# REP 8.35 Inverter/Lower Assembly

## Parts List on PL 15.5

## Removal

### WARNING

**To avoid personal injury or shock, do not perform repair activities with the power switch on or electrical power applied to the machine.**

1. Switch off the machine power and disconnect the machine Power Cord.
2. Remove the Feeder Left Cover.
3. Remove the Inverter/Lower Assembly. (Figure 1)

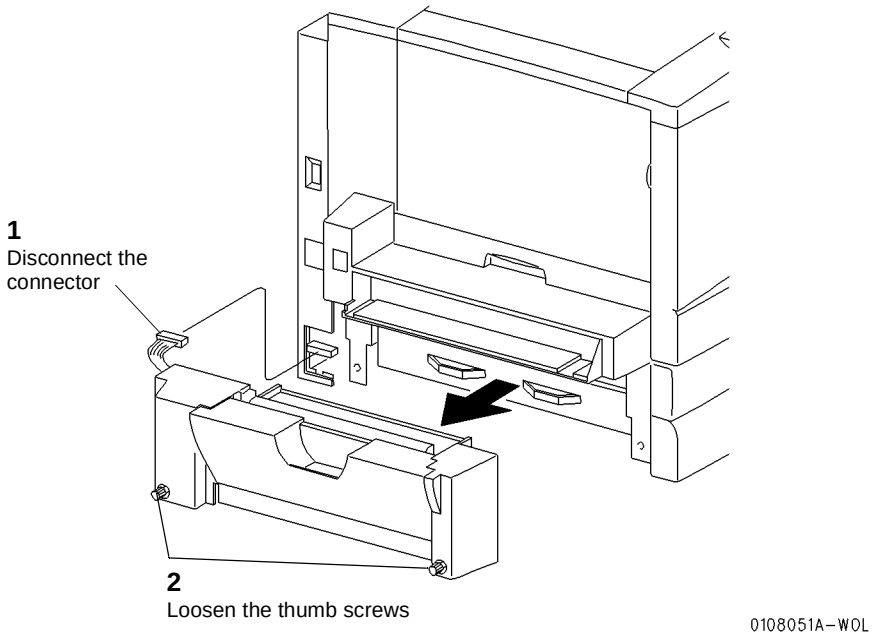


**Figure 1 Removing the Inverter/Lower Assembly**

## Replacement

1. Perform the removal procedure in reverse.

# REP 8.36 Inverter Motor

## Parts List on PL 15.5

## Removal

### WARNING

**To avoid personal injury or shock, do not perform repair activities with the power switch on or electrical power applied to the machine.**

1. Switch off the machine power and disconnect the machine Power Cord.
2. Remove the Inverter/Lower Assembly. (REP 8.35)
3. Remove the Rear Inverter Cover. (Figure 1)

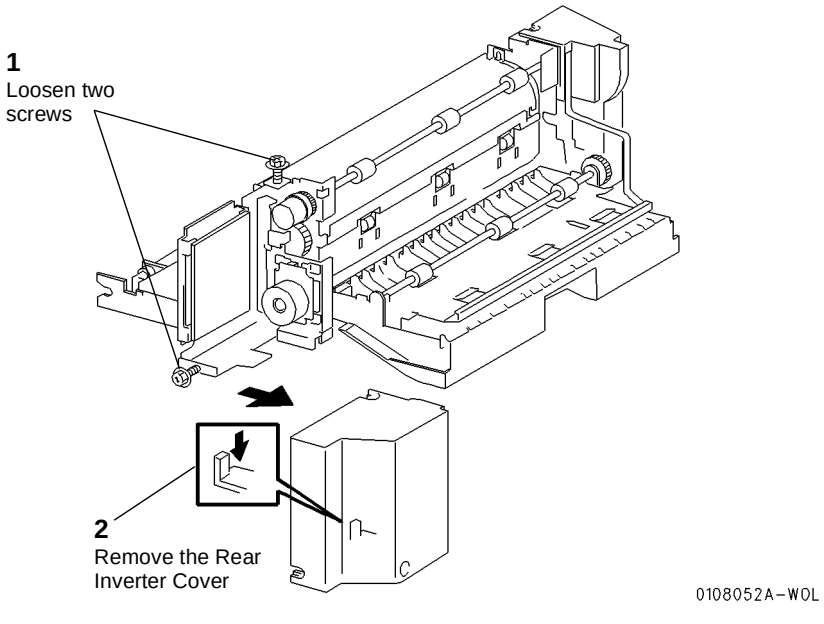


**Figure 1 Removing the Rear Inverter Cover**

4. Remove the Inverter Motor. (Figure 2)

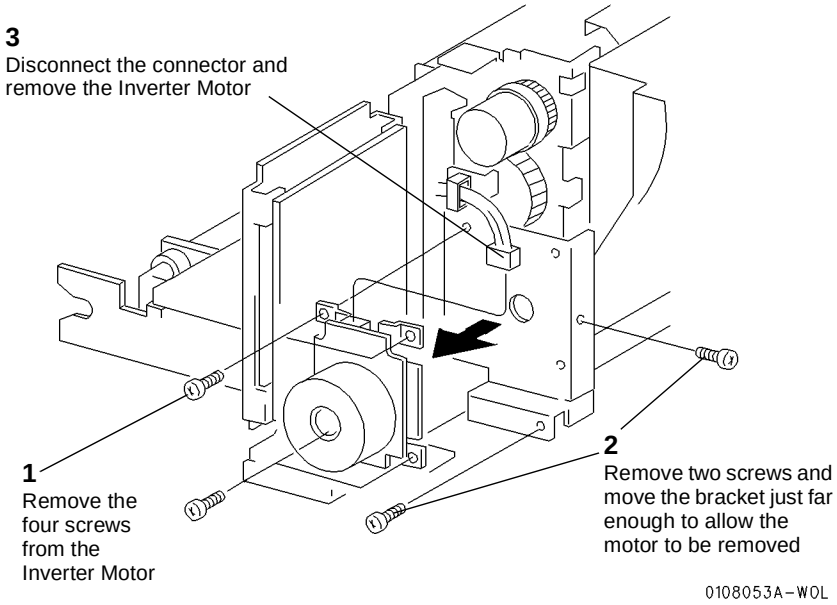
3
Disconnect the connector and remove the Inverter Motor
1
Remove the four screws from the Inverter Motor
2
Remove two screws and move the bracket just far enough to allow the motor to be removed
0108053A-WOL

**Figure 2 Removing the Inverter Motor**

## Replacement

**CAUTION**

*When installing the bracket, use care not to pinch the wires between the mounting surface and the bracket, or damage could occur.*

1. Perform the removal procedure in reverse.

# REP 8.37 Inverter Sensor

## Parts List on PL 15.5

## Removal

**WARNING**

**To avoid personal injury or shock, do not perform repair activities with the power switch on or electrical power applied to the machine.**

1. Switch off the machine power and disconnect the machine Power Cord.
2. Remove the Feeder Left Cover.
3. Remove the Inverter/Lower Assembly. (REP 8.35)
4. Remove the Inverter Roll (Figure 1)

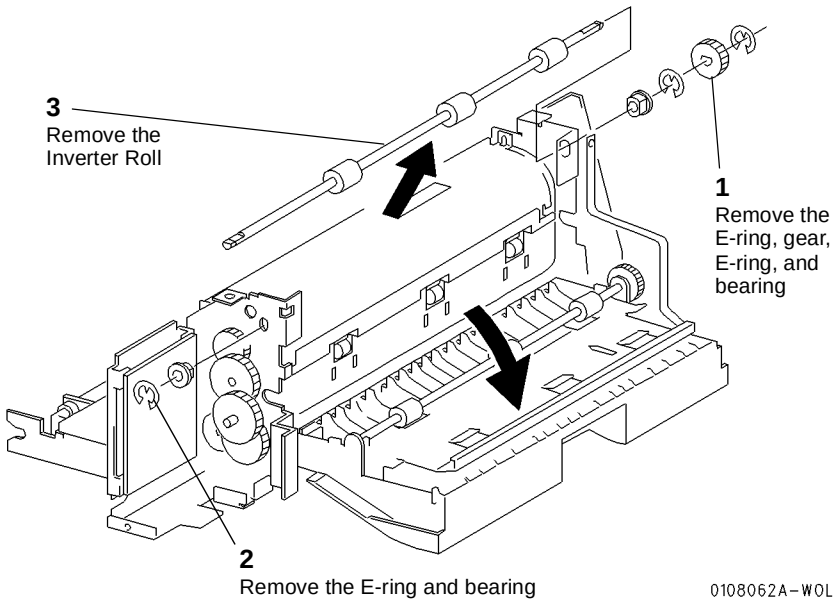


**Figure 1 Removing the Inverter Roll**

5. Remove the Inverter Sensor. (Figure 2)

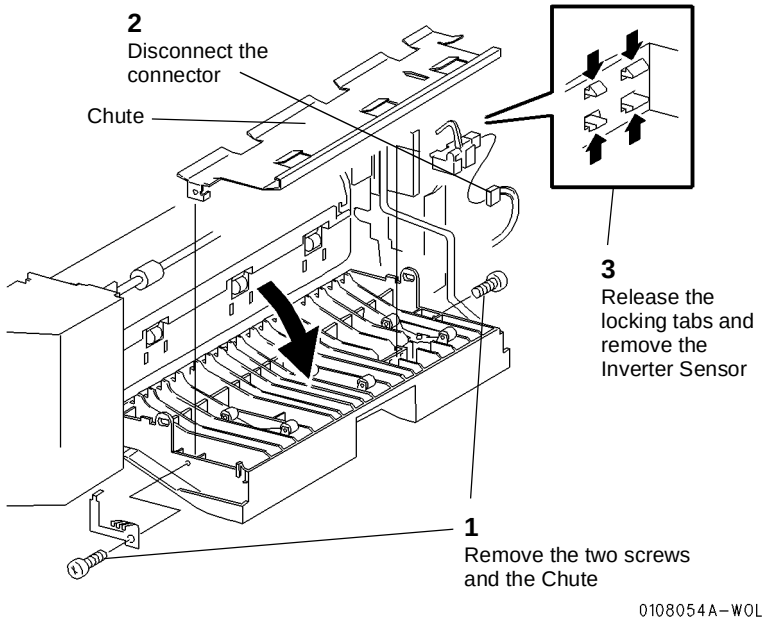


**Figure 2 Removing the Inverter Sensor**

## Replacement

1. Perform the removal procedure in reverse.

# REP 8.38 Duplex Controller PWB

## Parts List on PL 15.6

## Removal

### WARNING

**To avoid personal injury or shock, do not perform repair activities with the power switch on or electrical power applied to the machine.**

1. Switch off the machine power and disconnect the machine Power Cord.
2. Remove the Feeder Left Cover.
3. Remove the Inverter/Lower Assembly. (REP 8.35)
4. Remove the Rear Inverter Cover. (Figure 1)

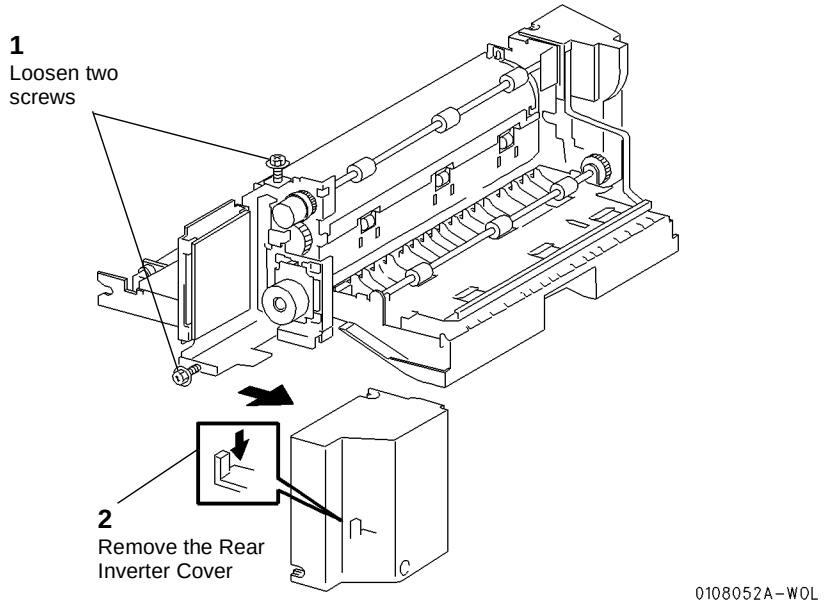


**Figure 1 Removing the Rear Inverter Cover**

### CAUTION

*The PWB components are highly susceptible to damage from electrostatic discharge (ESD) and extreme care should be used when handling these components. Use of the ESD Field Service Kit is required.*

5. Remove the Duplex Controller PWB. (Figure 2)

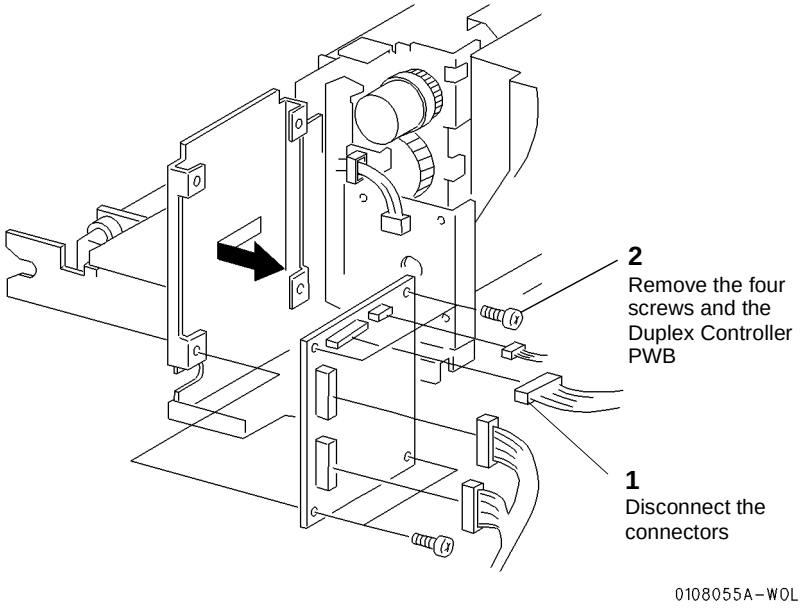


**Figure 2 Removing the Duplex Controller PWB**

## Replacement

1. Perform the removal procedure in reverse.

# REP 8.39 Duplex Nip Solenoid

## Parts List on PL 15.1

## Removal

### WARNING

**To avoid personal injury or shock, do not perform repair activities with the power switch on or electrical power applied to the machine.**

1. Switch off the machine power and disconnect the machine Power Cord.
2. Remove Tray 1 Assembly. (REP 7.6)
3. Remove the Duplex Tray Assembly. (REP 8.27)
4. Remove the Feeder Left Cover.
5. Remove the Inverter/Lower Assembly. (REP 8.35)
6. Remove the Lower Chute. (Figure 1)

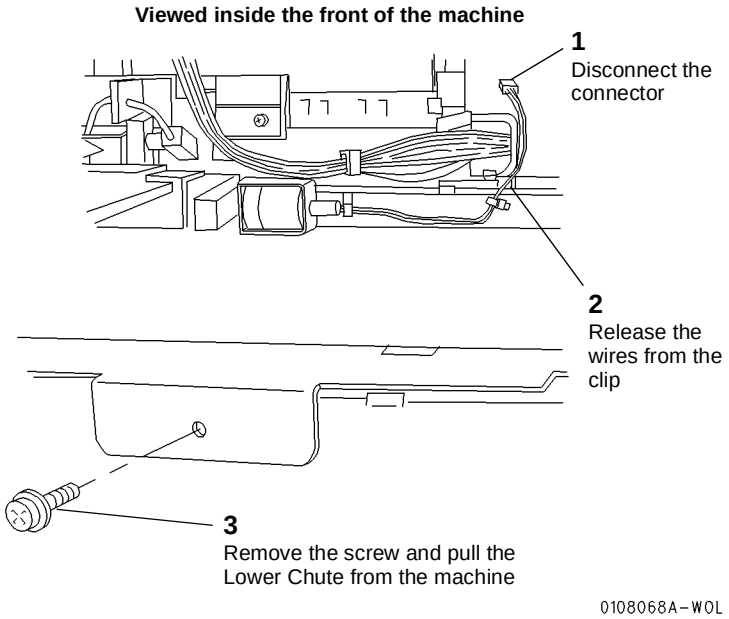


**Figure 1 Removing the Lower Chute**

7. Remove the Duplex Nip Solenoid. (Figure 2)

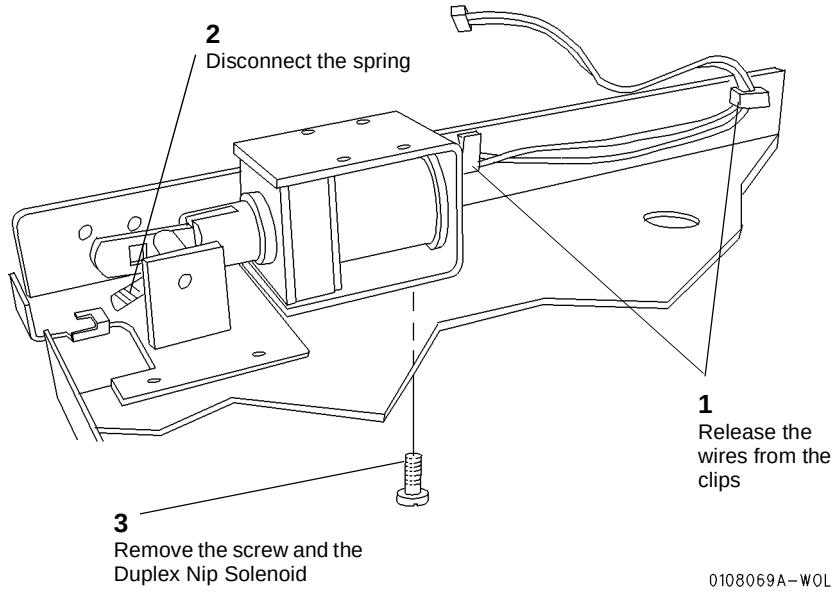


**Figure 2 Removing the Duplex Nip Solenoid**

## Replacement

1. Perform the removal procedure in reverse.
2. When replacing the Lower Chute, make sure the guide pins at the rear of the chute are positioned to the locating holes in the frame.

# REP 8.40 Exit Transport Assembly

## Parts List on PL 9.1

## Removal

### WARNING

**To avoid personal injury or shock, do not perform repair activities with the power switch on or electrical power applied to the machine.**

1. Switch off the machine power and disconnect the machine Power Cord.
2. Remove the Top Cover. (REP 14.4)
3. Remove the Rear Cover. (REP 14.6)

**CAUTION**

*The plastic hinges of the Transport Cover can be easily damaged. Use care when performing the following step.*

4. Remove the Exit Transport Cover. (Figure 1)

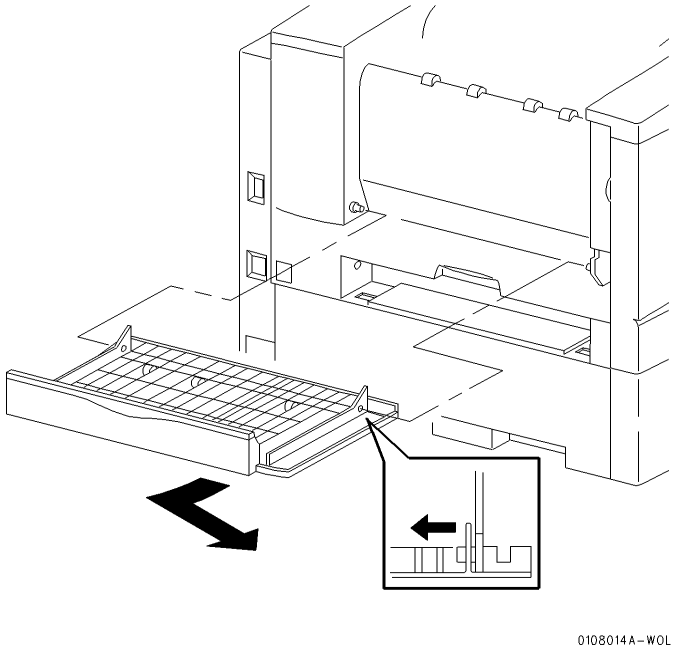


**Figure 1 Removing the Transport Cover**

5. Remove the Exit Transport Assembly. (Figure 2)

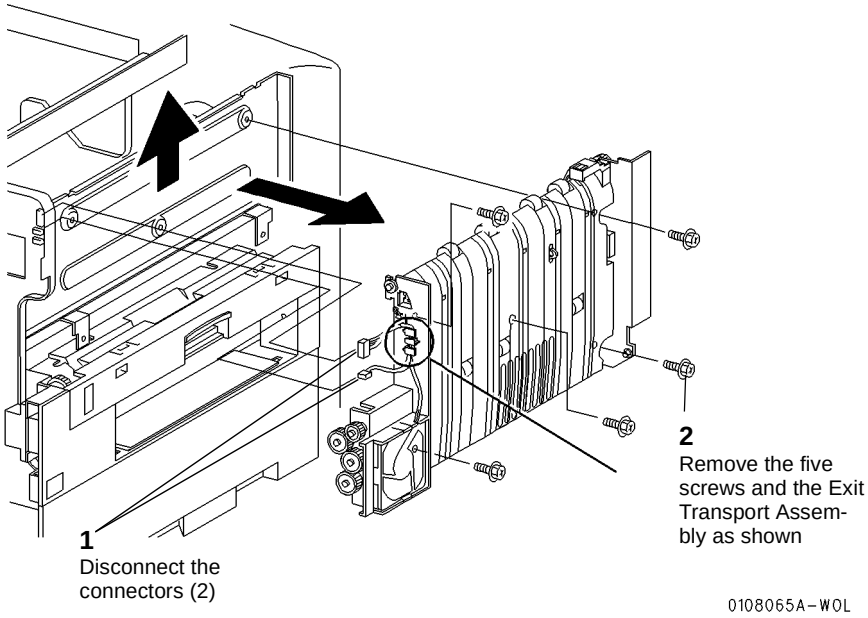


**Figure 2 Removing the Exit Transport Assembly**

## Replacement

1. Perform the removal procedure in reverse.
2. When replacing the Exit Transport Assembly, make sure that the plastic ears at the top (and at the bottom, below the fan) are positioned over the edge of the frame. (Figure 3)

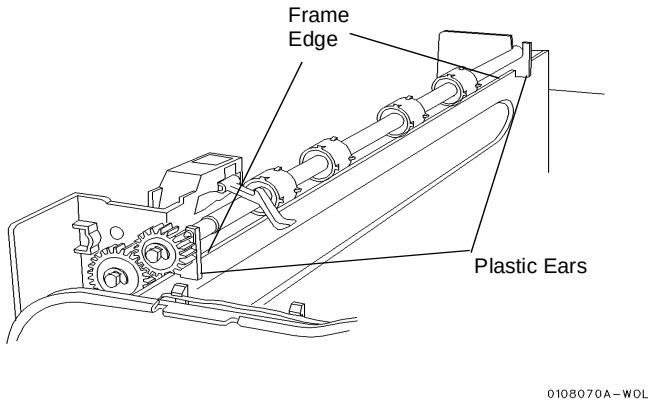


**Figure 3 Exit Transport Assembly Positioning**

# REP 8.41 Full Stack Sensor

## Parts List on PL 9.2

## Removal

### WARNING

**To avoid personal injury or shock, do not perform repair activities with the power switch on or electrical power applied to the machine.**

1. Switch off the machine power and disconnect the machine Power Cord.
2. Remove the Top Cover Assembly. (REP 14.4)
3. Remove the Full Stack Sensor. (Figure 1)

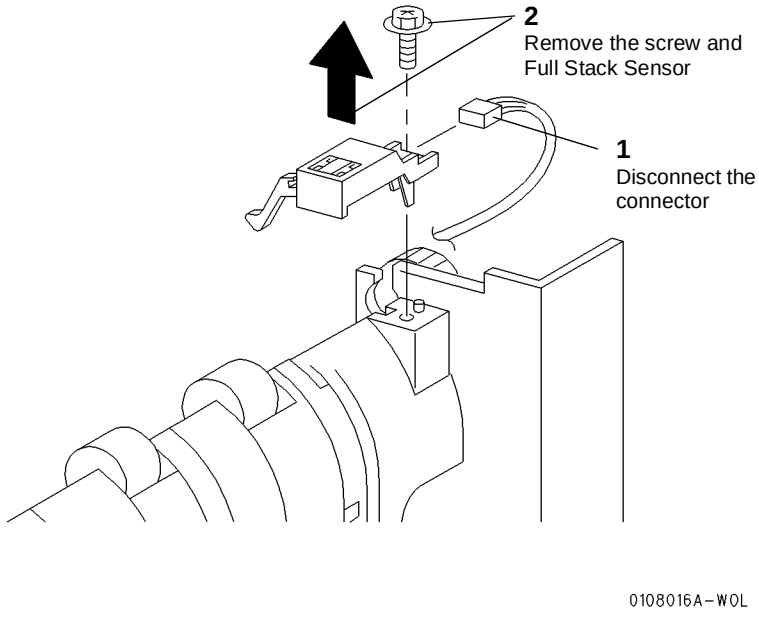


**Figure 1 Removing the Full Stack Sensor**

## Replacement

1. Perform the removal procedure in reverse.

# REP 8.42 Exit Chute Interlock

## Parts List on PL 9.2

## Removal

### WARNING

**To avoid personal injury or shock, do not perform repair activities with the power switch on or electrical power applied to the machine.**

1. Switch off the machine power and disconnect the machine Power Cord.
2. Remove the Exit Transport Assembly. (REP 8.40)
3. Remove the Exit Chute Interlock. (Figure 1)

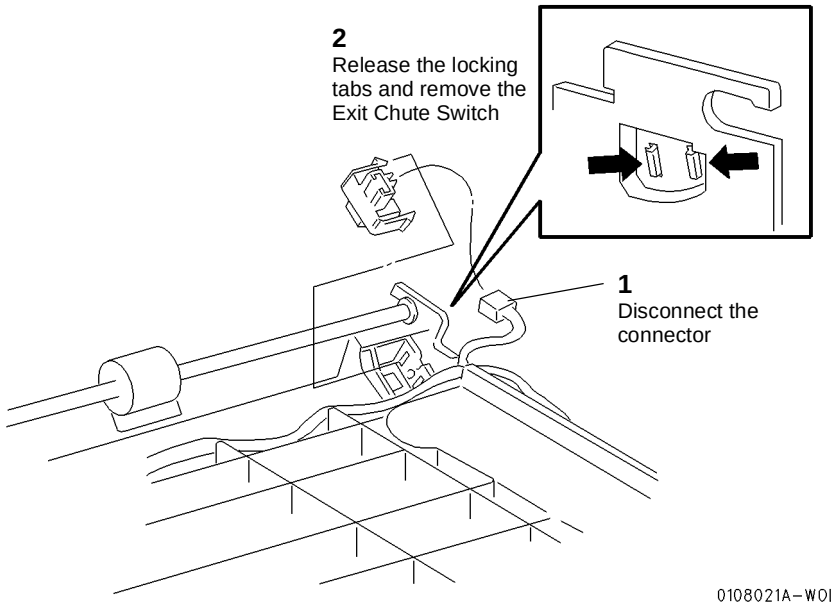


**Figure 1 Removing the Exit Chute Interlock**

## Replacement

1. Perform the removal procedure in reverse.

# REP 8.43 Top Exit Sensor

## Parts List on PL 9.2

## Removal

**WARNING**

**To avoid personal injury or shock, do not perform repair activities with the power switch on or electrical power applied to the machine.**

1. Switch off the machine power and disconnect the machine Power Cord.
2. Remove the Exit Transport Assembly. (REP 8.40)
3. Remove the Top Exit Sensor (Figure 1).

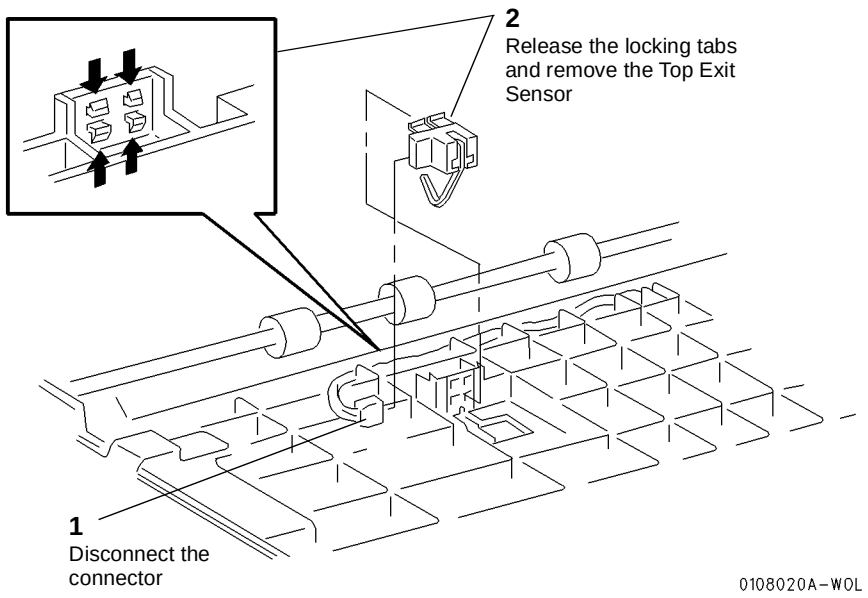


**Figure 1 Removing the Top Exit Sensor**

## Replacement

1. Perform the removal procedure in reverse.

# REP 9.1 Copy/Print Cartridge

## Parts List on PL 5.1

## Removal

### WARNING

**To avoid personal injury or shock, do not perform repair activities with the power switch on or electrical power applied to the machine.**

1. Switch off the machine power and disconnect the machine Power Cord.

**CAUTION**

*Be careful not to touch the surface of the Copy/Print Cartridge when removing the cartridge.*

*After removing, be sure to lay the Copy/Print Cartridge in the horizontal position in a safe place that is not exposed to light.*

2. Remove the Copy/Print Cartridge (Figure 1).

## Replacement

1. Accurately align the Rail Assembly and Copy/Print Cartridge using the positioning marks.
2. Reinstall the Copy/Print Cartridge in the reverse order of removal.

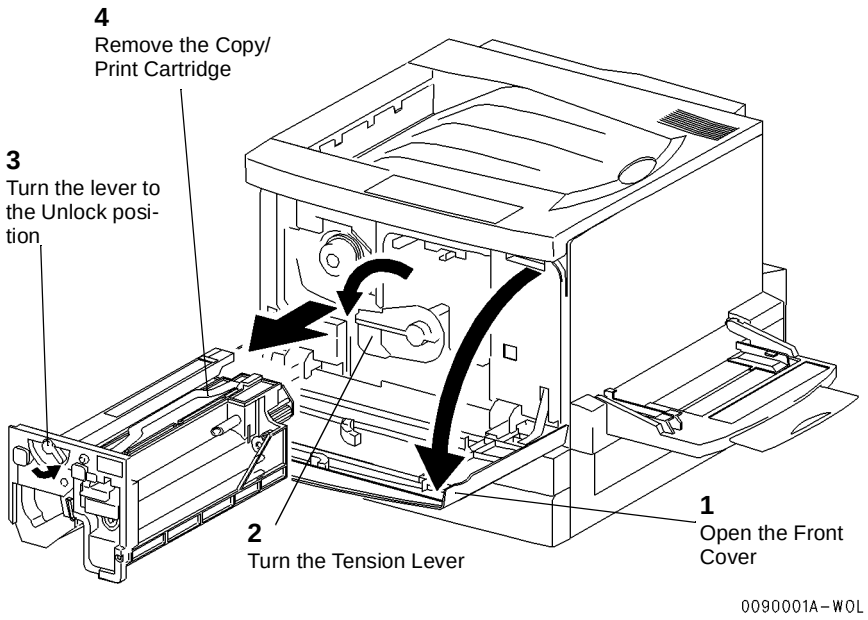


**Figure 1 Removing the Copy/Print Cartridge**

# REP 9.2 Waste Container

## Parts List on PL 5.1

## Removal

### WARNING

**To avoid personal injury or shock, do not perform repair activities with the power switch on or electrical power applied to the machine.**

1. Switch off the machine power and disconnect the machine Power Cord.

**CAUTION**

*After removing, be sure to lay the Waste Container in the horizontal position in a safe place.*

2. Remove the Waste Container (Figure 1).

## Replacement

1. Reinstall the Waste Container in the reverse order of removal.
2. Push the Waste Container in securely until it hooks into place.

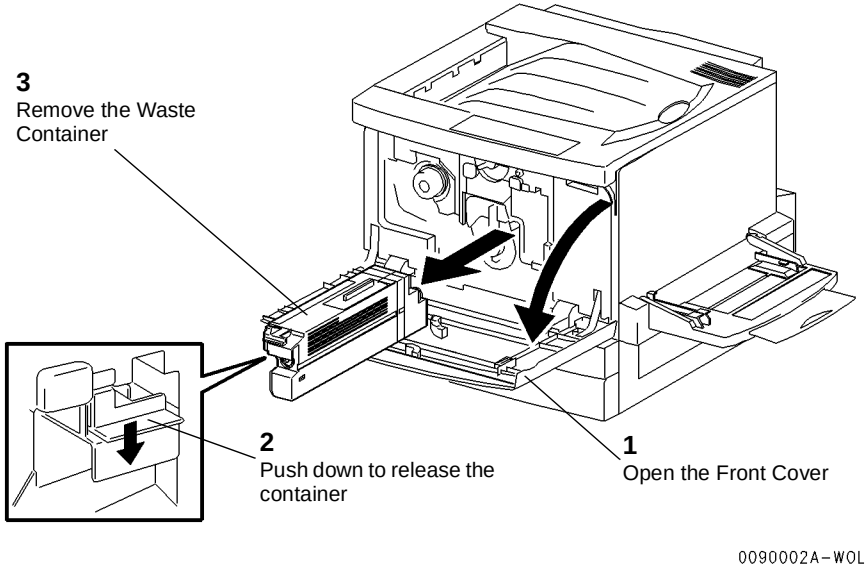


**Figure 1 Removing the Waste Container**

# REP 9.3 ROS

## Parts List on PL 5.1

## Removal

### WARNING

**To avoid personal injury or shock, do not perform repair activities with the power switch on or electrical power applied to the machine.**

1. Switch off the machine power and disconnect the machine Power Cord.
2. Remove the Top Cover Assembly (REP 14.4).
3. Prepare to remove the ROS (Figure 1).

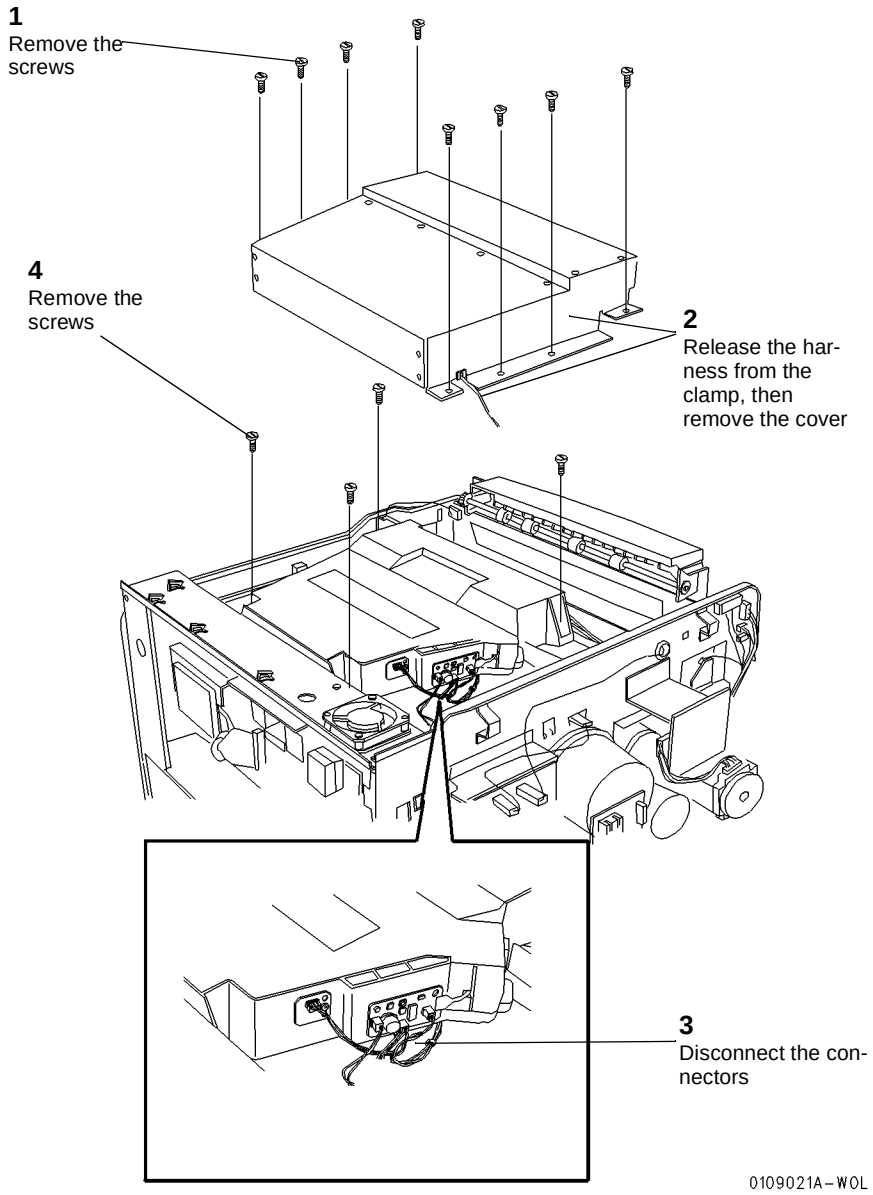


**Figure 1 Preparing to Remove the ROS**

**CAUTION**

*Be careful not to touch the window of the ROS (window from which laser beam is emitted) or other working components, such as the motor shaft, when removing the ROS.*

*The ROS and the Locating Rail are connected by a harness. Be careful not to pull them too far apart when removing the ROS.*

4. Remove the ROS (Figure 2).

## Replacement

**CAUTION**

*Be careful that the harness does not touch the Scanner Motor shaft in the ROS or get pinched between the ROS and frame during reinstallation of the ROS.*

1. Reinstall the ROS in the reverse order of removal.

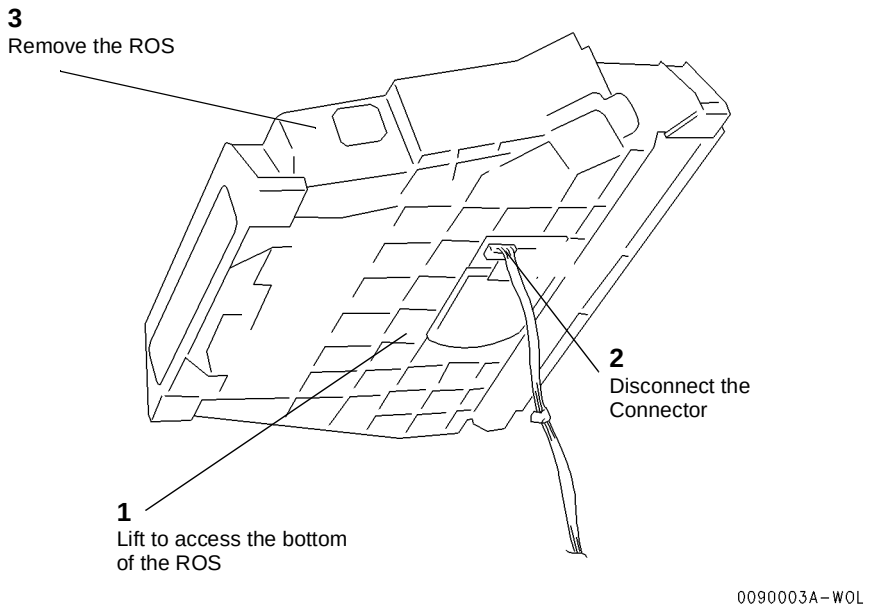


**Figure 2 Removing the ROS**

# REP 9.4 ADC Sensor

## Parts List on PL 5.1

## Removal

**WARNING**

**To avoid personal injury or shock, do not perform repair activities with the power switch on or electrical power applied to the machine.**

1. Switch off the machine power and disconnect the machine Power Cord.
2. Remove the Top Cover Assembly (REP 14.4).
3. Remove the Tension Lever (REP 9.15).
4. Remove the Copy/Print Cartridge (REP 9.1).
5. Remove the IBT Assembly (REP 9.16).
6. Remove the Left Inner Cover Assembly and the IBT Inner Cover (REP 14.5).

**CAUTION**

*Be careful not to damage the surface of the IBT Belt or Magnetic Roll of the Developer Housing when removing the ADC Sensor.*

7. Remove the ADC Sensor (Figure 1).

## Replacement

1. Securely mount the shaft of the ADC Sensor on the frame.
2. Reinstall the ADC Sensor in the reverse order of removal.

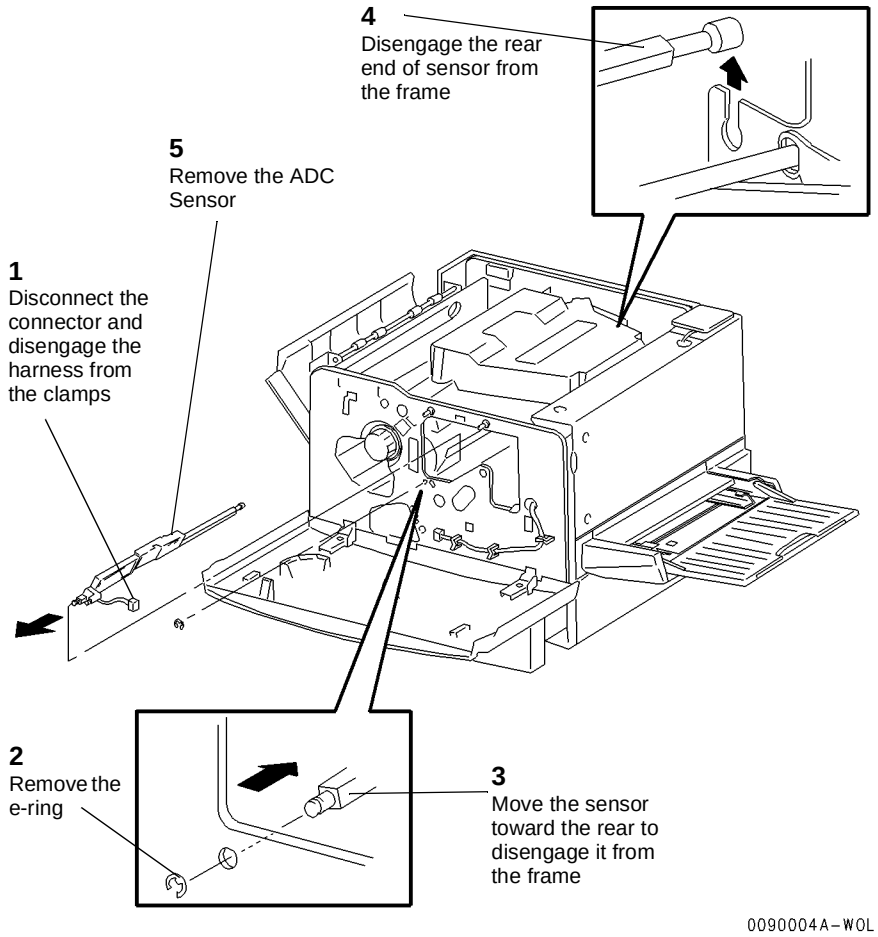
4
Disengage the rear end of sensor from the frame
5
Remove the ADC Sensor
1
Disconnect the connector and disengage the harness from the clamps
2
Remove the e-ring
3
Move the sensor toward the rear to disengage it from the frame
0090004A-WOL

**Figure 1 Removing the ADC Sensor**

# REP 9.5 Locating Rail

## Parts List on PL 5.1

## Removal

### WARNING

**To avoid personal injury or shock, do not perform repair activities with the power switch on or electrical power applied to the machine.**

1. Switch off the machine power and disconnect the machine Power Cord.
2. Remove the Top Cover Assembly (REP 14.4).
3. Remove the Copy/Print Cartridge (REP 9.1).
4. Remove the ROS (REP 9.3).
5. Prepare to remove the Locating Rail (Figure 1).

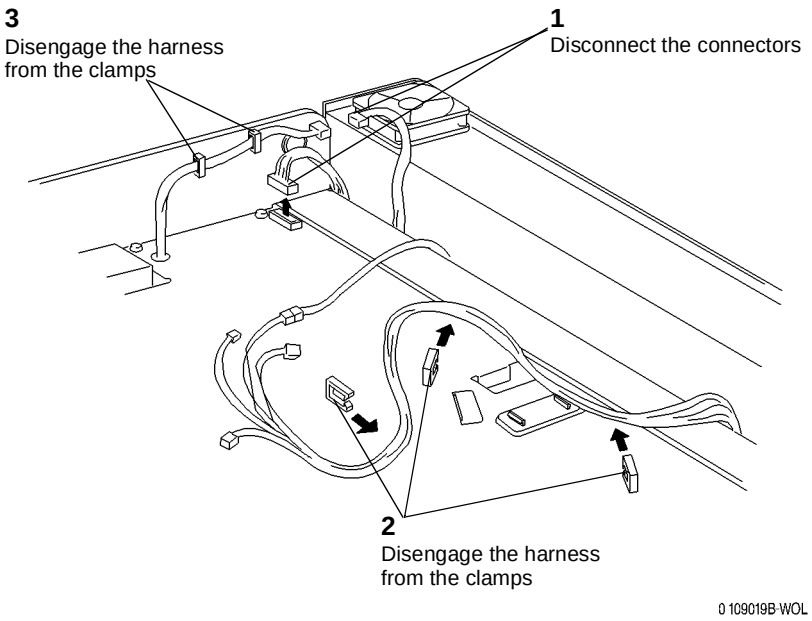


**Figure 1 Preparing to Remove the Locating Rail**

**CAUTION**

*Be careful not to touch IBT Belt, or damage the harnesses or Magnetic Roll surface of the Developer Housing while removing the Locating Rail.*

6. Remove the Locating Rail (Figure 2).

## Replacement

**CAUTION**

*Be careful not to touch IBT Belt, or damage the harnesses or Magnetic Roll surface of the Developer Housing while reinstalling the Locating Rail.*

1. Reinstall the Locating Rail in the reverse order of removal.

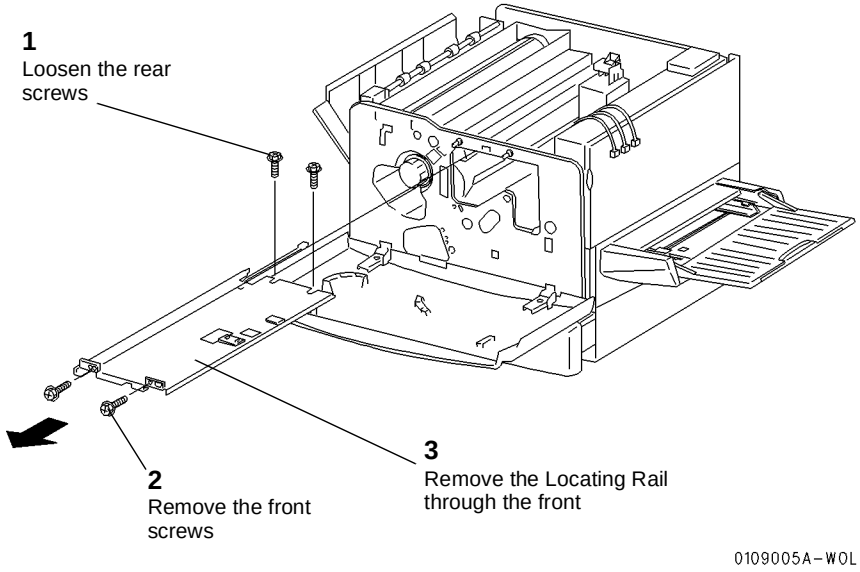


**Figure 2 Removing the Locating Rail**

# REP 9.6 Waste Toner Sensor

## Parts List on PL 5.1

## Removal

### WARNING

**To avoid personal injury or shock, do not perform repair activities with the power switch on or electrical power applied to the machine.**

1. Switch off the machine power and disconnect the machine Power Cord.
2. Remove the Locating Rail (REP 9.5).
3. Remove the Waste Toner Sensor (Figure 1).

## Replacement

1. Remove all slack from the harness before securing the harness.
2. Reinstall the Waste Toner Sensor in the reverse order of removal.

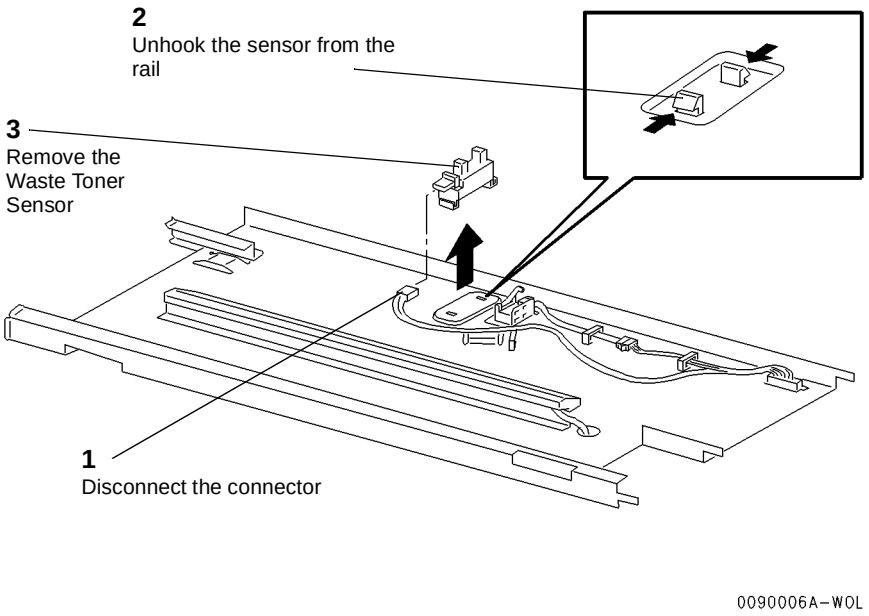


**Figure 1 Removing the Waste Toner Sensor**

# REP 9.7 Toner Box Sensor

## Parts List on PL 5.1

## Removal

### WARNING

**To avoid personal injury or shock, do not perform repair activities with the power switch on or electrical power applied to the machine.**

1. Switch off the machine power and disconnect the machine Power Cord.
2. Remove the Locating Rail (REP 9.5).
3. Remove the Toner Box Sensor (Figure 1).

## Replacement

1. Remove all slack from the harness before securing the harness.
2. Reinstall the Toner Box Sensor in the reverse order of removal.

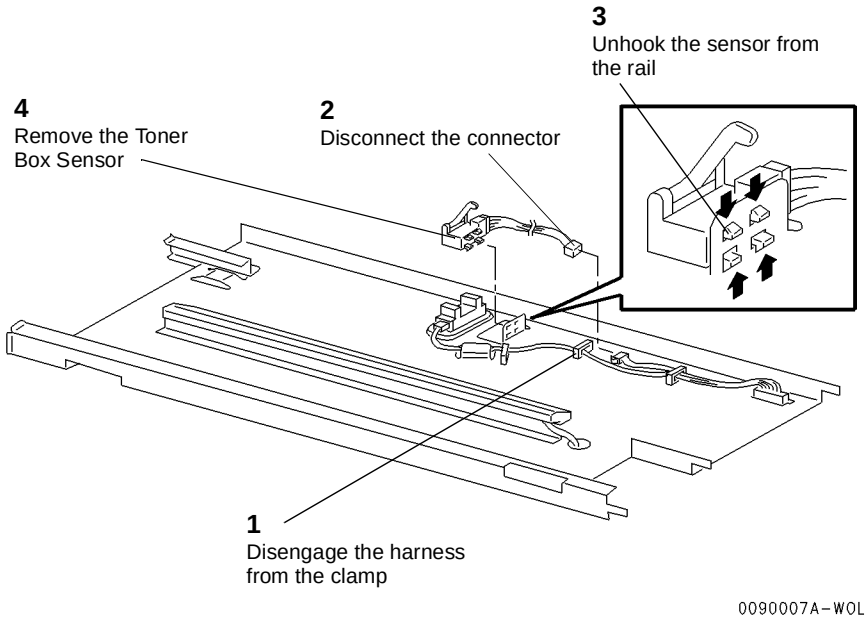


**Figure 1 Removing the Toner Box Sensor**

# REP 9.8 Erase Lamp

## Parts List on PL 5.1

## Removal

**WARNING**

**To avoid personal injury or shock, do not perform repair activities with the power switch on or electrical power applied to the machine.**

1. Switch off the machine power and disconnect the machine Power Cord.
2. Remove the Locating Rail (REP 9.5).
3. Remove the Erase Lamp (Figure 1).

## Replacement

1. Reinstall the Erase Lamp in the reverse order of removal.

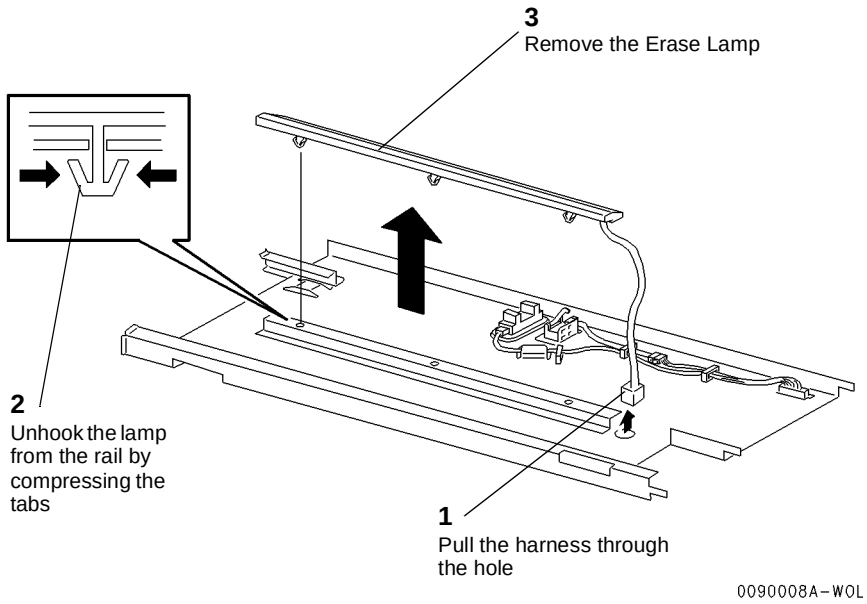


**Figure 1 Removing the Erase Lamp**

# REP 9.9 Dry Ink Cartridge

## Parts List on PL 6.2

## Removal

**WARNING**

**To avoid personal injury or shock, do not perform repair activities with the power switch on or electrical power applied to the machine.**

1. Switch off the machine power and disconnect the machine Power Cord.
2. Remove the appropriate Dry Ink Cartridge (Figure 1).

**CAUTION**

*After removing, be sure to lay the Dry Ink Cartridge in its horizontal position in a safe place.*

## Replacement

1. Place the arrow on the end of the Dry Ink Cartridge facing toward the top in order to insert the cartridge.
2. Reinstall the Dry Ink Cartridge in the reverse order of removal.

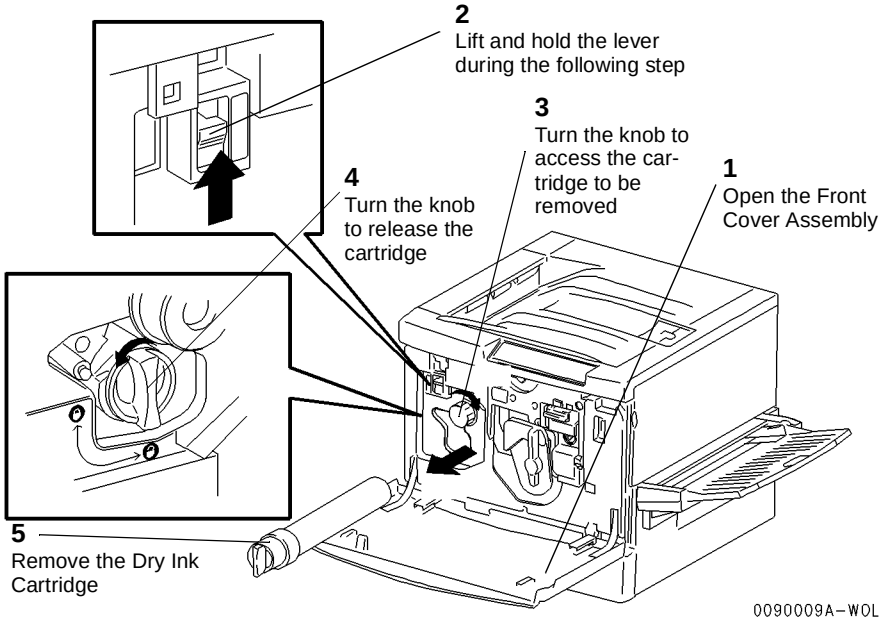


**Figure 1 Removing the Dry Ink Cartridge**

# REP 9.10 Developer Housing

## Parts List on PL 6.2

## Removal

### WARNING

**To avoid personal injury or shock, do not perform repair activities with the power switch on or electrical power applied to the machine.**

1. Switch off the machine power and disconnect the machine Power Cord.
2. Remove the Top Cover Assembly (REP 14.4).
3. Remove the Copy/Print Cartridge (REP 9.1).
4. Remove the Tension Lever (REP 9.15).
5. Remove the Left Inner Cover Assembly (REP 14.5).
6. Remove the Dry Ink Cartridge (REP 9.9) from the Developer Housing to be removed.

**CAUTION**

*Be careful not to damage the Magnetic Roll of the Developer Housing during the removal.*

*Be careful not to drop the screws during the removal.*

*Be aware that the Rotary Frame can turn when the following step is performed.*

*After removing, be sure to lay the Developer Housing in a horizontal position in a safe place.*

7. Remove the Rotary Latch (Figure 1).

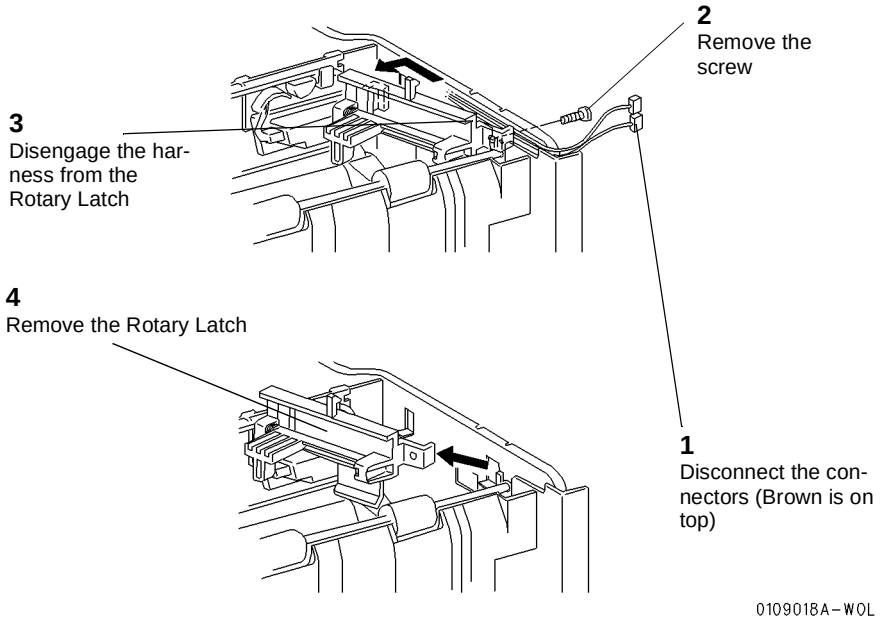


**Figure 1 Removing the Rotary Latch**

8. Remove the Developer Housing (Figure 2).

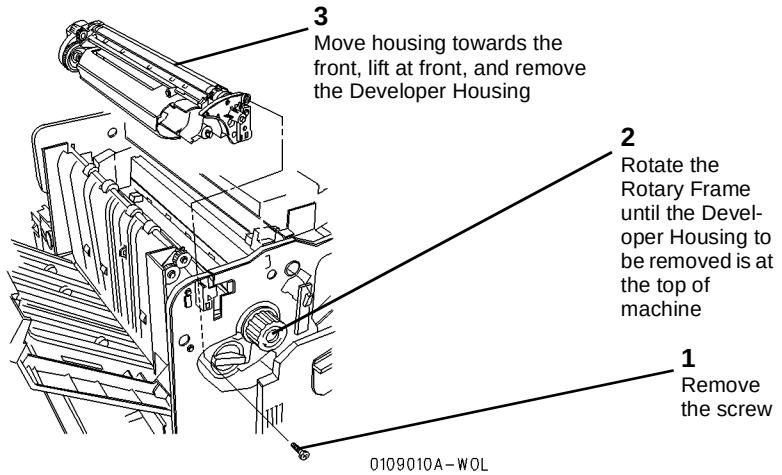
3
Move housing towards the front, lift at front, and remove the Developer Housing
2
Rotate the Rotary Frame until the Developer Housing to be removed is at the top of machine
1
Remove the screw
0109010A-WOL

**Figure 2 Removing the Developer Housing**

## Replacement

1. Reinstall the Developer Housing in the reverse order of removal.
2. Rotate the Rotary Frame to install the screw after reinstalling the Developer Housing.
3. Check the Developer Spacing (ADJ 9.1).

# REP 9.11 Rotary Sensor

## Parts List on PL 6.1

## Removal

**WARNING**

**To avoid personal injury or shock, do not perform repair activities with the power switch on or electrical power applied to the machine.**

1. Switch off the machine power and disconnect the machine Power Cord.
2. Remove the Rear Cover (REP 14.6).
3. Remove the Fan Duct and Fan in order to access the Rotary Sensor (Figure 1).
4. Remove the Rotary Sensor (Figure 2).

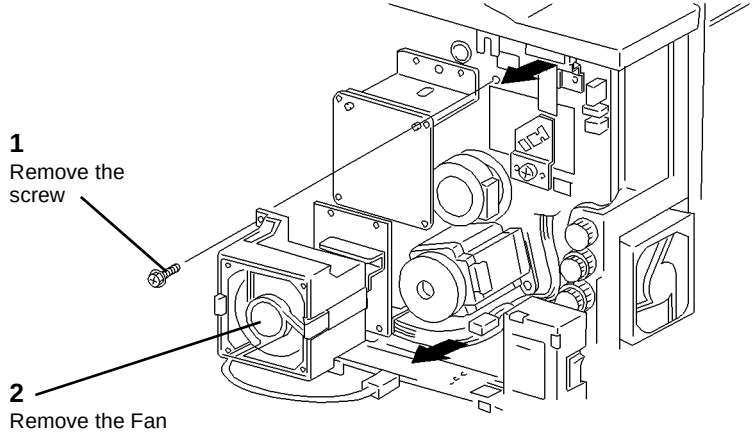


**Figure 1 Removing the Fan Duct and Developer Frame**

## Replacement

1. Secure the harness so that the harness does not get caught in the gears.
2. Reinstall the Rotary Sensor in the reverse order of removal.

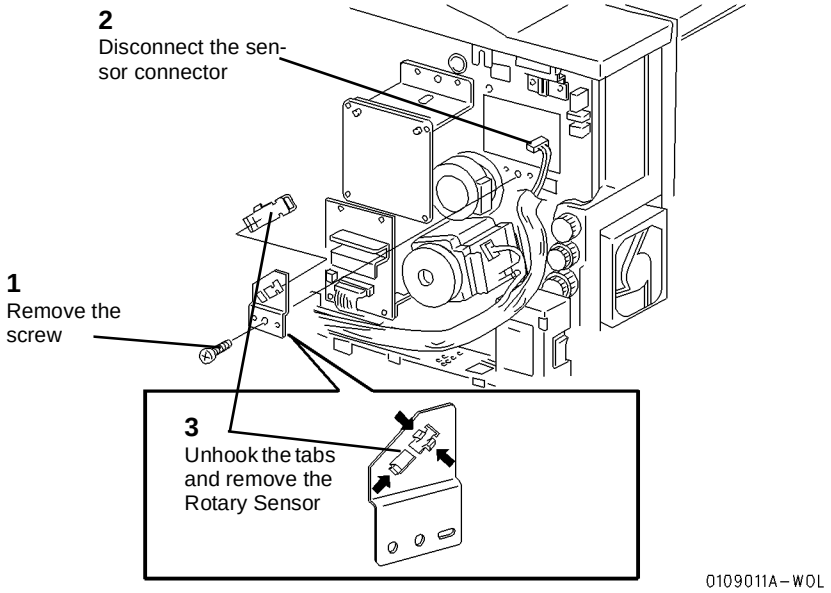


**Figure 2 Removing the Rotary Sensor**

# REP 9.12 Rotary Frame

## Parts List on PL 6.1

## Removal

### WARNING

**To avoid personal injury or shock, do not perform repair activities with the power switch on or electrical power applied to the machine.**

1. Switch off the machine power and disconnect the machine Power Cord.
2. Remove the Front Cover Assembly (REP 14.1).
3. Remove the Top Cover Assembly (REP 14.4).
4. Remove the Copy/Print Cartridge (REP 9.1).
5. Remove the Tension Lever (REP 9.15).
6. Remove the Left Inner Cover Assembly (REP 14.5).
7. Remove the Rear Cover (REP 14.6).
8. Remove all Dry Ink Cartridges (REP 9.9).
9. Remove the Left Front Cover Interlock (REP 1.7).
10. Remove all Developer Housings (REP 9.10).
11. Remove the Rotary Sensor (REP 9.11).
12. Remove the Fuser Assembly (REP 10.1).
13. Remove the Exit Transport Assembly (REP 8.40).
14. Remove the Rotary Motor PWB (REP 4.8).
15. Remove the Rotary Motor (REP 4.7).
16. Remove the Dispense Clutch (REP 4.9).
17. Remove the LVPS (REP 1.1).
18. Remove the Fuser Drive Unit (REP 4.2).
19. Remove the Developer Clutch (REP 4.10).
20. Remove the Developer Tie Plate (REP 9.14).
21. Remove the Rotary Knob (Figure 1).

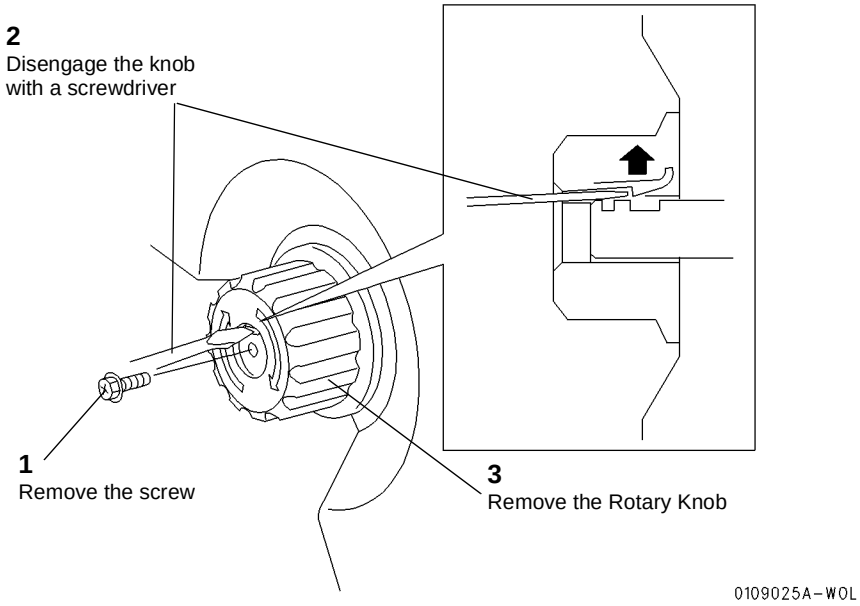


**Figure 1 Removing the Rotary Knob**

**WARNING**

**The Rotary Frame is very heavy. Be careful not to drop or touch other components while removing the Rotary Frame.**

**CAUTION**

*Keep the front shaft of the Rotary Frame from falling from the machine while performing the following step by keeping the front of the Rotary Frame supported.*

22. Remove the Rotary Frame (Figure 2).

## Replacement

1. Reinstall the Rotary Frame in the reverse order of removal.

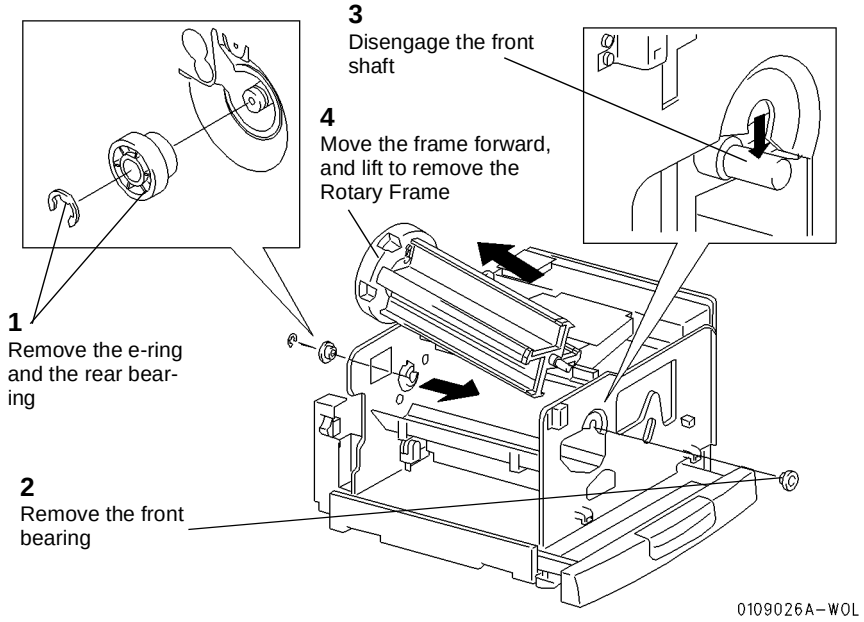


**Figure 2 Removing the Rotary Frame**

# REP 9.13 Cartridge Sensor

## Parts List on PL 6.1

## Removal

### WARNING

**To avoid personal injury or shock, do not perform repair activities with the power switch on or electrical power applied to the machine.**

1. Switch off the machine power and disconnect the machine Power Cord.
2. Remove the Top Cover Assembly (REP 14.4).
3. Access the Cartridge Sensor (Figure 1).

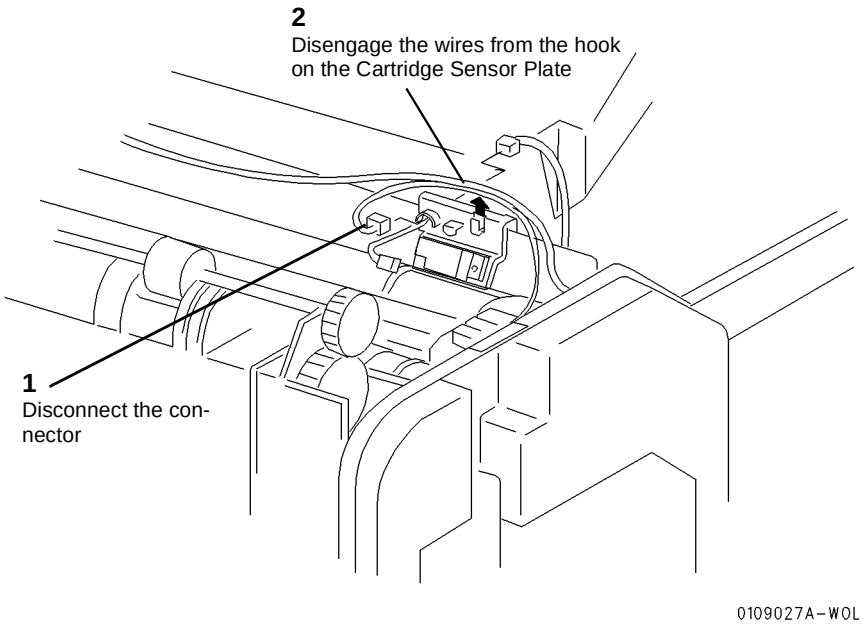


**Figure 1 Accessing the Cartridge Sensor**

4. Remove the Cartridge Sensor (Figure 2).

## Replacement

### CAUTION

*Securely route the harness in the hooks of the Sensor Plate and Rotary Latch so there is no slack in the harness.*

1. Reinstall the Cartridge Sensor in the reverse order of removal.

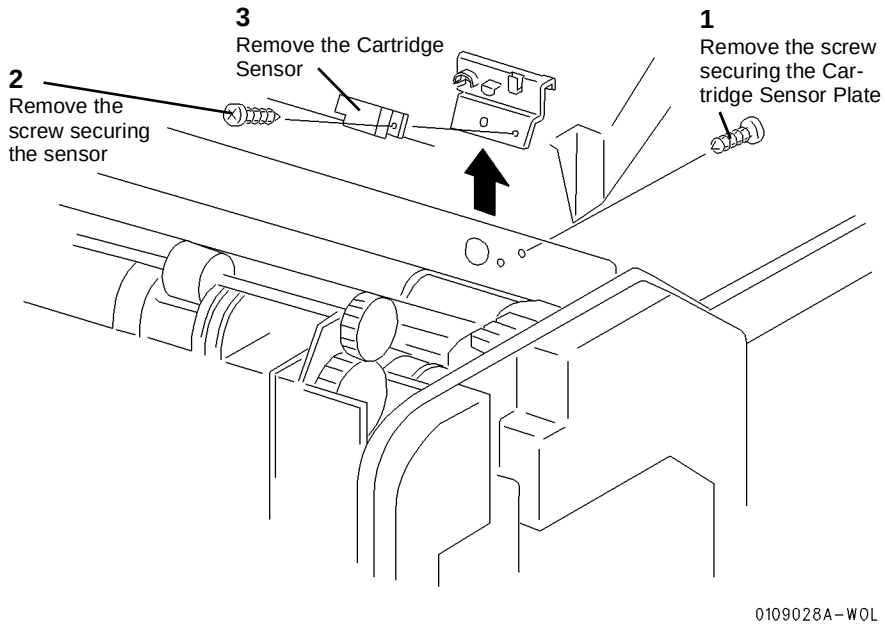


**Figure 2 Removing the Cartridge Sensor**

# REP 9.14 Developer Tie Plate

## Parts List on PL 1.3

## Removal

### WARNING

**To avoid personal injury or shock, do not perform repair activities with the power switch on or electrical power applied to the machine.**

1. Switch off the machine power and disconnect the machine Power Cord.
2. Remove the Top Cover Assembly (REP 14.4).
3. Remove the Rear Cover (REP 14.6).
4. Remove the Copy/Print Cartridge (REP 9.1).
5. Remove the Tension Lever (REP 9.15).
6. Remove the Left Inner Cover Assembly and IBT Inner Cover (REP 14.5).
7. Remove the Exit Transport Assembly (REP 8.40).

**CAUTION**

*Be careful not to damage the connectors attached to the rear frame of the printer while removing the plate.*

8. Remove the Developer Tie Plate (Figure 1).

## Replacement

1. Reinstall the Developer Tie Plate in the reverse order of removal.

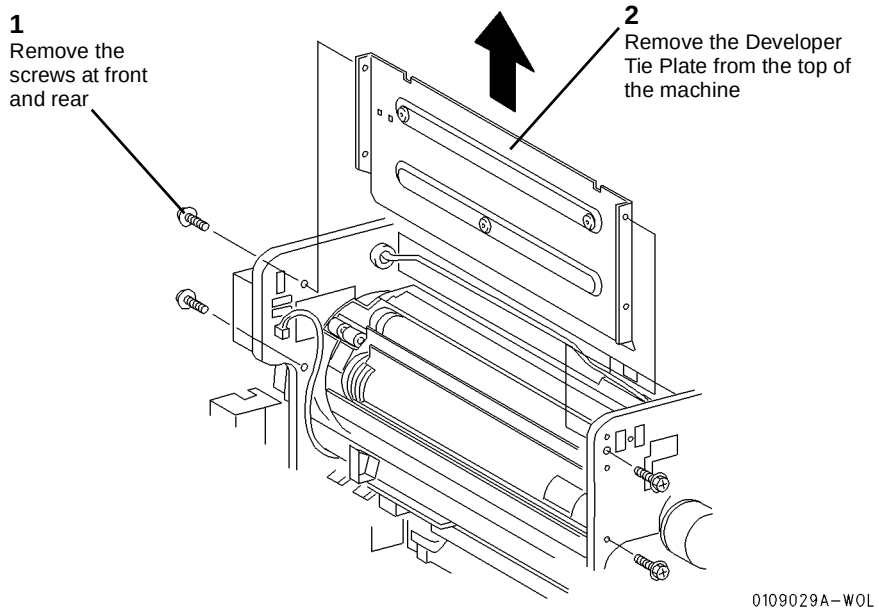


**Figure 1 Removing the Developer Tie Plate**

# REP 9.15 Tension Lever

## Parts List on PL 7.1

## Removal

### WARNING

**To avoid personal injury or shock, do not perform repair activities with the power switch on or electrical power applied to the machine.**

1. Switch off the machine power and disconnect the machine Power Cord.
2. Remove the Tension Lever (Figure 1).

## Replacement

1. Reinstall the Tension Lever in the reverse order of removal.

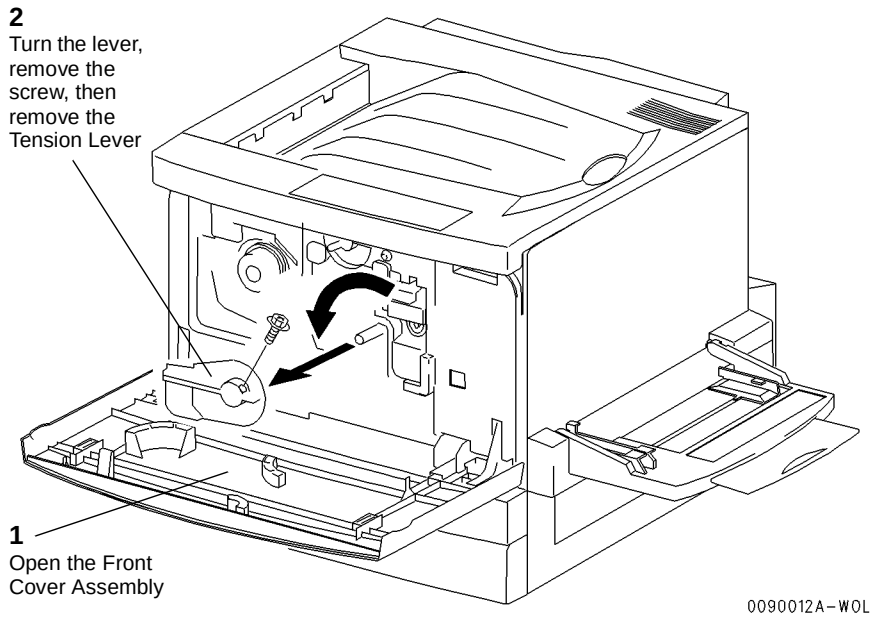


**Figure 1 Removing the Tension Lever**

# REP 9.16 IBT Assembly

## Parts List on PL 7.2

## Removal

**WARNING**

**To avoid personal injury or shock, do not perform repair activities with the power switch on or electrical power applied to the machine.**

1. Switch off the machine power and disconnect the machine Power Cord.
2. Remove the Rear Cover (REP 14.6).
3. Remove the Copy/Print Cartridge (REP 9.1).
4. Remove the Tension Lever (REP 9.15).
5. Remove the Inner Covers (REP 14.5).
6. Remove the Fuser Assembly (REP 10.1).
7. Remove the Belt Cleaner (REP 9.17).
8. Remove the BTR 2 Assembly (REP 9.18).
9. Open the Bypass Tray / Registration Assembly.
10. Disconnect the ADC Sensor and TR0 Sensor connectors.

**CAUTION**

*Ensure that the IBT Belt does not touch any other components during the removal. Never touch the surface of the IBT Belt with your hands. (Hold the assembly by the ribs on either side.)*

11. Remove the IBT Assembly (Figure 1).

## Replacement

1. Reinstall the IBT Assembly in the reverse order of removal.

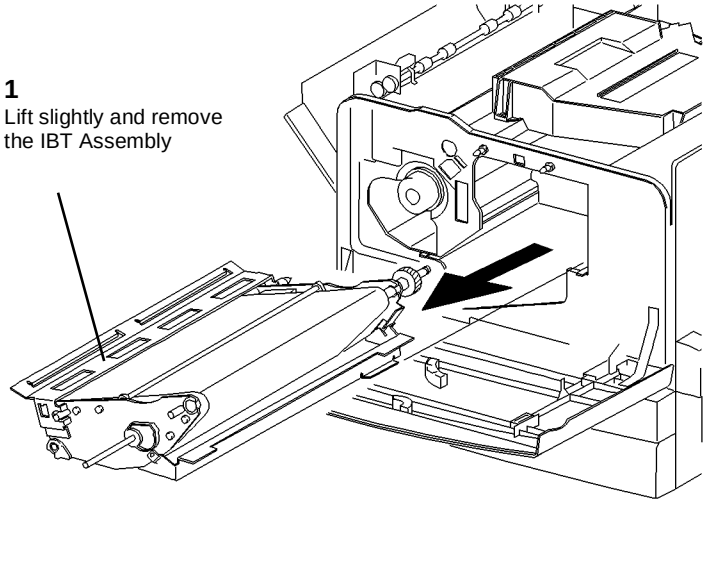


**Figure 1 Removing the IBT Assembly**

# REP 9.17 Belt Cleaner

## Parts List on PL 7.1

## Removal

### WARNING

**To avoid personal injury or shock, do not perform repair activities with the power switch on or electrical power applied to the machine.**

1. Switch off the machine power and disconnect the machine Power Cord.
2. Remove the Fuser Assembly (REP 10.1)

**CAUTION**

*Be careful not to touch the IBT Belt Assembly or cleaning blade of the Belt Cleaner Assembly. Do not allow the Cleaning Blade to come in contact with any other parts.*

***NOTE:*** *Dry Ink may spill from the Belt Cleaner during the removal. Place paper on the frame below the Belt Cleaner, and be careful not to spill dry ink.*

3. Remove the Belt Cleaner (Figure 1).

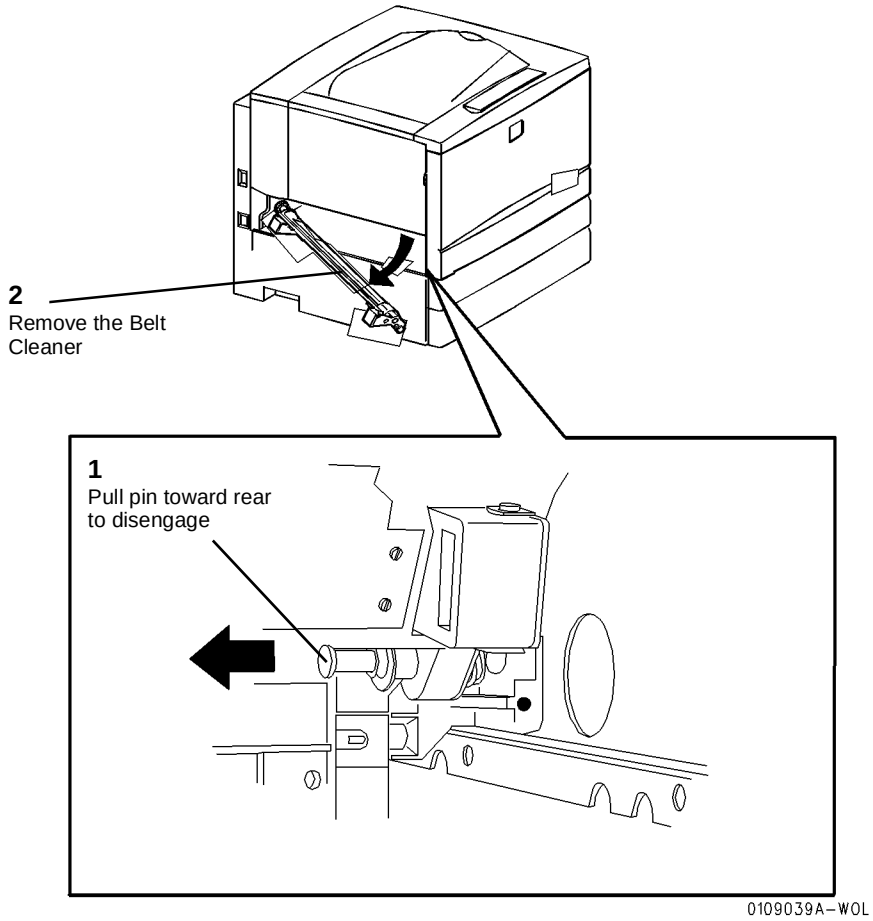


**Figure 1 Removing the Belt Cleaner**

## Replacement

1. Reinstall the Belt Cleaner (Figure 2).
2. Reset the Belt Cleaner counter (counter clear).

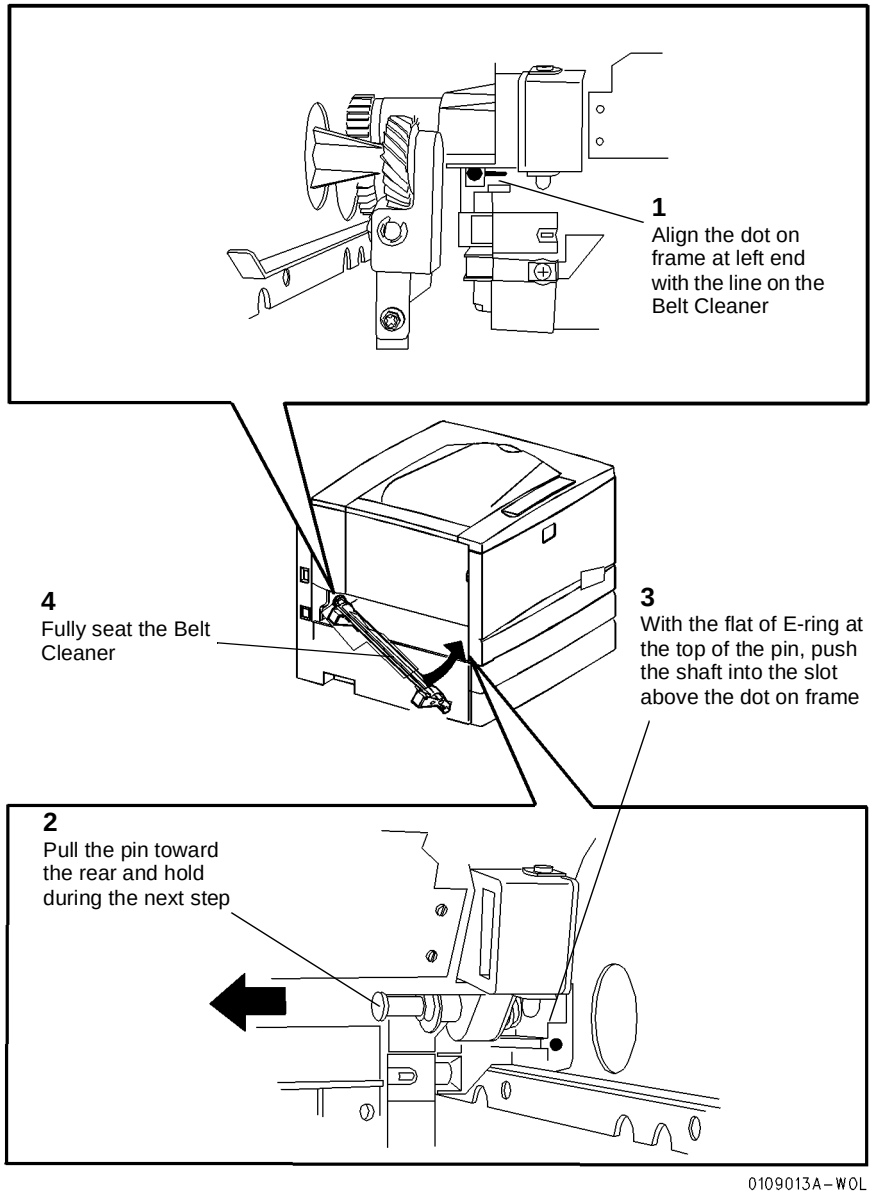
1
Align the dot on frame at left end with the line on the Belt Cleaner
4
Fully seat the Belt Cleaner
3
With the flat of E-ring at the top of the pin, push the shaft into the slot above the dot on frame
2
Pull the pin toward the rear and hold during the next step
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**Figure 2 Replacing the Belt Cleaner**

# REP 9.18 BTR 2 Assembly

## Parts List on PL 7.1

## Removal

**WARNING**

**To avoid personal injury or shock, do not perform repair activities with the power switch on or electrical power applied to the machine.**

1. Switch off the machine power and disconnect the machine Power Cord.
2. Remove the Belt Cleaner (REP 9.17).

**CAUTION**

*Do not touch the IBT Belt or BTR 2 Assembly, or allow the BTR 2 Assembly to touch other components during the removal.*

3. Remove the BTR 2 Assembly (Figure 1).

## Replacement

1. Reinstall the BTR 2 Assembly in the reverse order of removal.
2. Push the BTR 2 Assembly firmly into place.

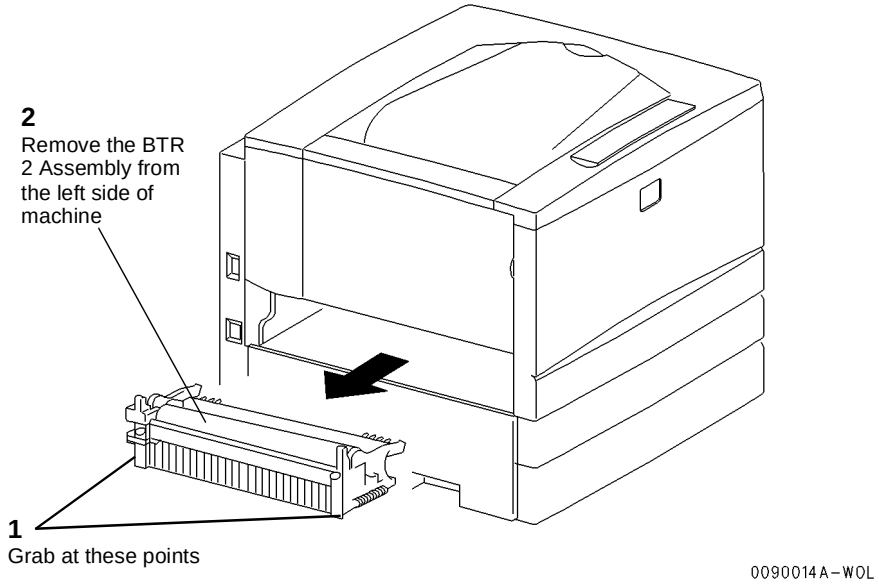


**Figure 1 Removing the BTR 2 Assembly**

# REP 9.19 BTR 2 Cam Assembly

## Parts List on PL 7.1

## Removal

**WARNING**

**To avoid personal injury or shock, do not perform repair activities with the power switch on or electrical power applied to the machine.**

1. Switch off the machine power and disconnect the machine Power Cord.
2. Remove the Rear Cover (REP 14.4).
3. Remove the Copy/Print Cartridge (REP 9.1).
4. Remove the Tension Lever (REP 9.15).
5. Remove the Left Inner Cover Assembly (REP 14.5).
6. Remove the Fuser Assembly (REP 10.1).
7. Remove the Belt Cleaner (REP 9.17).
8. Remove the BTR 2 Assembly (REP 9.18).
9. Remove the BTR Cam Clutch (REP 9.23).
10. Open the Bypass Tray / Registration Assembly.
11. Remove the IBT Assembly (REP 9.16).
12. Remove the BTR 2 Cam Assembly (Figure 1).

## Replacement

1. Reinstall the BTR 2 Cam Assembly in the reverse order of removal.

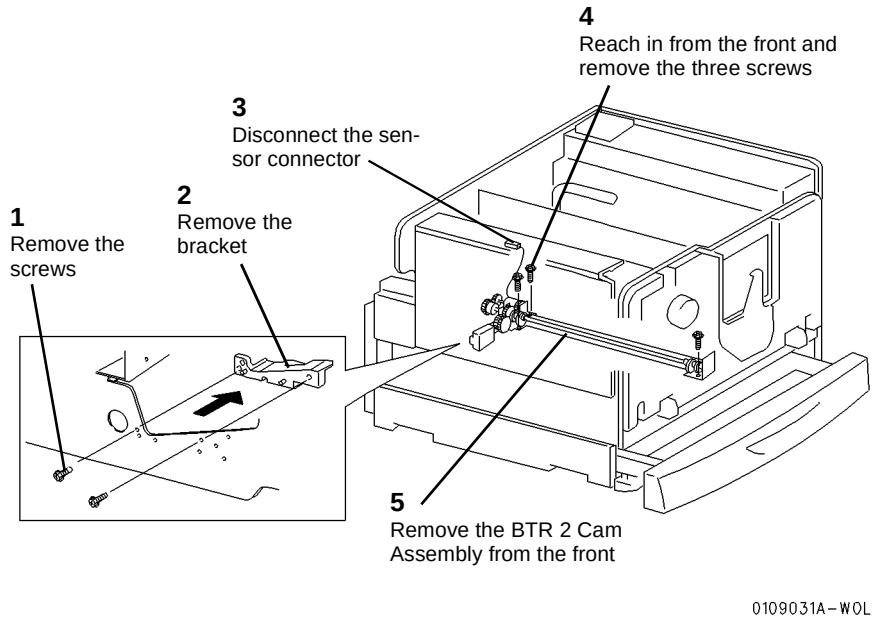


**Figure 1 Removing the BTR 2 Cam Assembly**

# REP 9.20 Auger

## Parts List on PL 7.1

## Removal

### WARNING

**To avoid personal injury or shock, do not perform repair activities with the power switch on or electrical power applied to the machine.**

1. Switch off the machine power and disconnect the machine Power Cord.
2. Open the Bypass Tray / Registration Assembly (REP 8.6).
3. Remove the Locating Rail (REP 9.3).
4. Remove the Fuser Assembly (REP 10.1).
5. Remove the Belt Cleaner (REP 9.17).
6. Remove the BTR 2 Assembly (REP 9.18).
7. Remove the BTR Cam Clutch (REP 9.23).
8. Remove the HVPS (REP 1.2).
9. Remove the Process Drive Unit (REP 4.6).
10. Remove the IBT Assembly (REP 9.16).
11. Remove the BTR 2 Cam Assembly (REP 9.19).
12. Remove the Right Cover (REP 14.9).

***NOTE:*** *Toner may spill from the Auger during the removal. Spread paper on the frame below the Auger and be careful not to spill toner.*

13. Remove the screw securing the Auger at the rear of the printer.
14. Remove the screw and KL-Clip securing the Auger inside the printer (lower side).
15. Remove the screw securing the Auger inside the printer (upper side).
16. Free the harness from the clamp of the P/H Drive Assembly.
17. Remove the two screws securing the IBT Rear Bracket Assembly, and remove the IBT Rear Bracket Assembly.

***NOTE:*** *After removing the Auger, place it on paper in case toner is spilled.*

18. Remove the Auger (Figure 1).

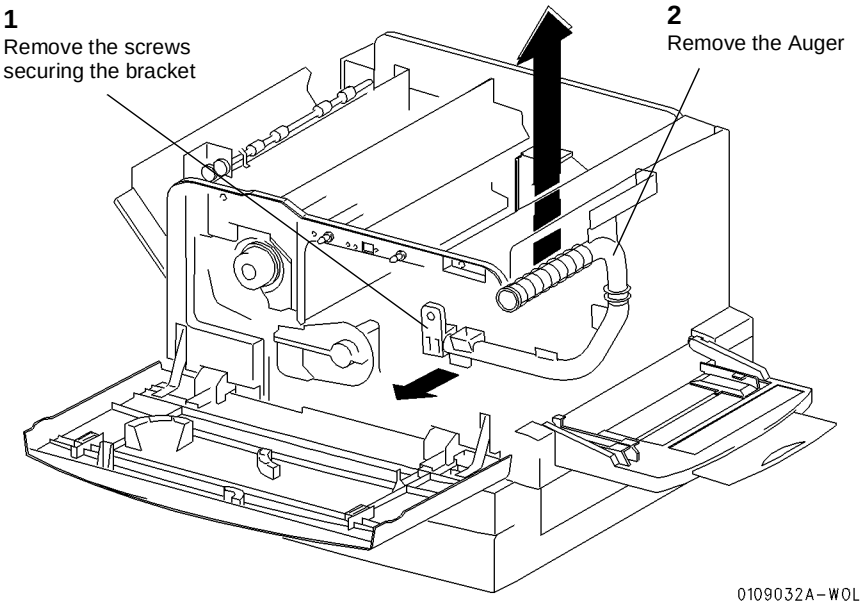


**Figure 1 Removing the Auger**

## Replacement

1. Reinstall the Auger in the reverse order of removal.

# REP 9.21 IBT Belt

## Parts List on PL 7.2

## Removal

### WARNING

**To avoid personal injury or shock, do not perform repair activities with the power switch on or electrical power applied to the machine.**

1. Switch off the machine power and disconnect the machine Power Cord.
2. Open the Bypass Tray / Registration Assembly (REP 8.6).

**CAUTION**

*Be careful not to touch the surface of the IBT Belt during the removal. Oil from your hands can contaminate the IBT Belt.*

3. Remove the IBT Assembly (REP 9.16).
4. Remove the Rails (Figure 1).

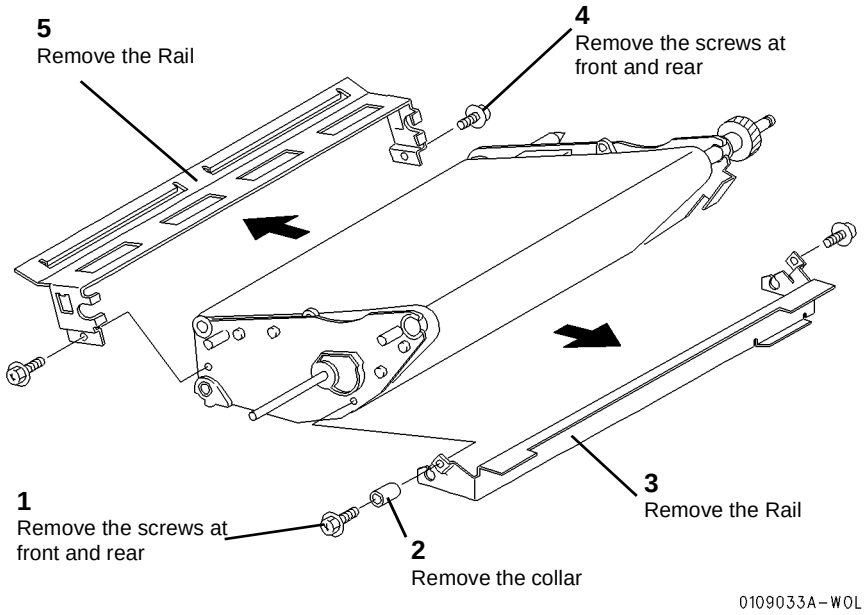


**Figure 1 Removing the Rails**

5. Reinstall the Tension Lever, and lift the Push In Lever while turning.
6. Remove the Shaft (Figure 2).

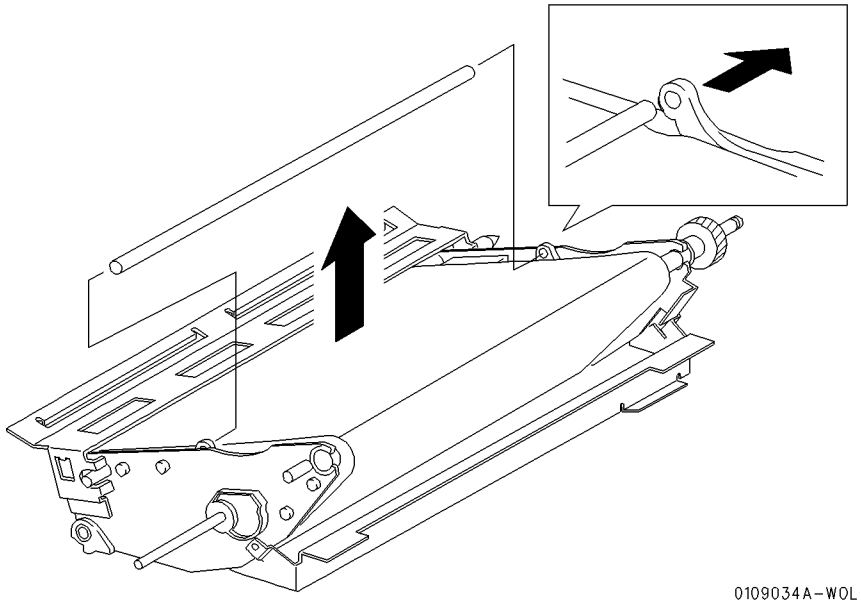


**Figure 2 Removing the Shaft**

7. Turn the Tension Lever, lift the arm to which the Push In Shaft is attached, and remove the Tension Lever.
8. Push in the metal cams on both sides of the Transfer Assembly, insert a hexagonal screwdriver into the hole on the side, and lock the metal cam.

9. Stand the IBT Assembly with its rear side at the bottom.

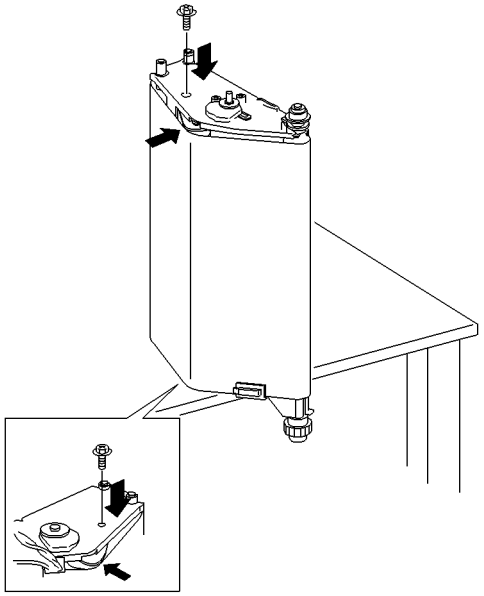

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**Figure 3 Removing the IBT Belt**

10. Remove the IBT Belt from the Assembly.

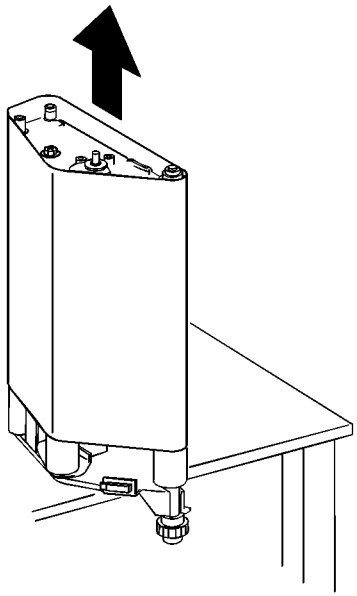

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**Figure 4 Removing the IBT Belt**

## Replacement

**CAUTION**

*Be careful not to damage or dirty the IBT Belt during the reinstallation.*

1. Clean the Push In Shaft of all foreign matter or lubrication prior to reinstalling the IBT Belt.
2. Reinstall the IBT Belt in the reverse order of removal.

# REP 9.22 TR0 Sensor

## Parts List on PL 7.3

## Removal

### WARNING

**To avoid personal injury or shock, do not perform repair activities with the power switch on or electrical power applied to the machine.**

1. Switch off the machine power and disconnect t
   he machine Power Cord.
2. Open the Bypass Tray / Registration Assembly (REP 8.6).
3. Remove the IBT Assembly (REP 9.16).
4. Remove the Rail.
5. Remove the TR0 Sensor (Figure 1).

## Replacement

1. Reinstall the TR0 Sensor in the reverse order of removal.

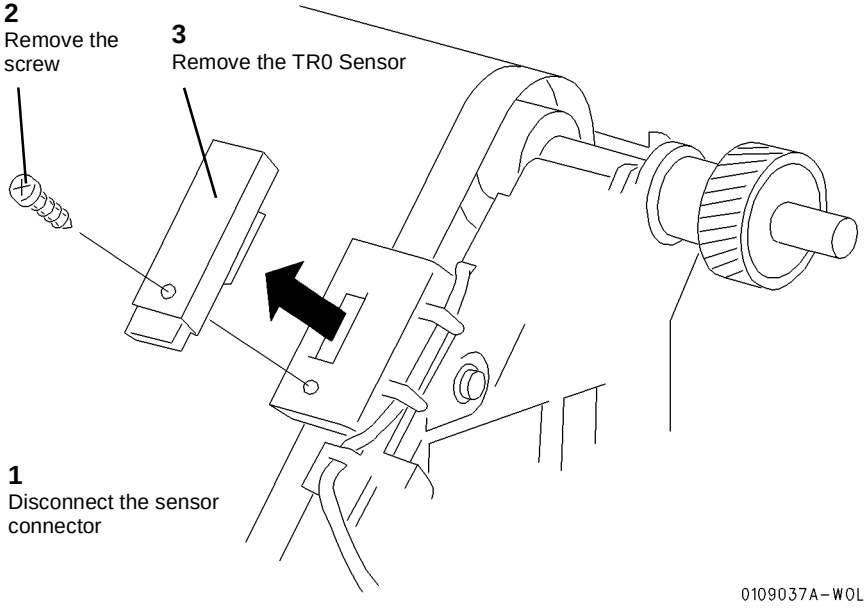



**Figure 1 Removing the TR0 Sensor**

# REP 9.23 BTR 2 Cam Clutch

## Parts List on PL 7.4

## Removal

### WARNING

**To avoid personal injury or shock, do not perform repair activities with the power switch on or electrical power applied to the machine.**

1. Switch off the machine power and disconnect the machine Power Cord.
2. Remove the Rear Cover (REP 14.6).
3. Remove the BTR 2 Cam Clutch (Figure 1).

## Replacement

1. Reinstall the BTR 2 Cam Clutch in the reverse order of removal.

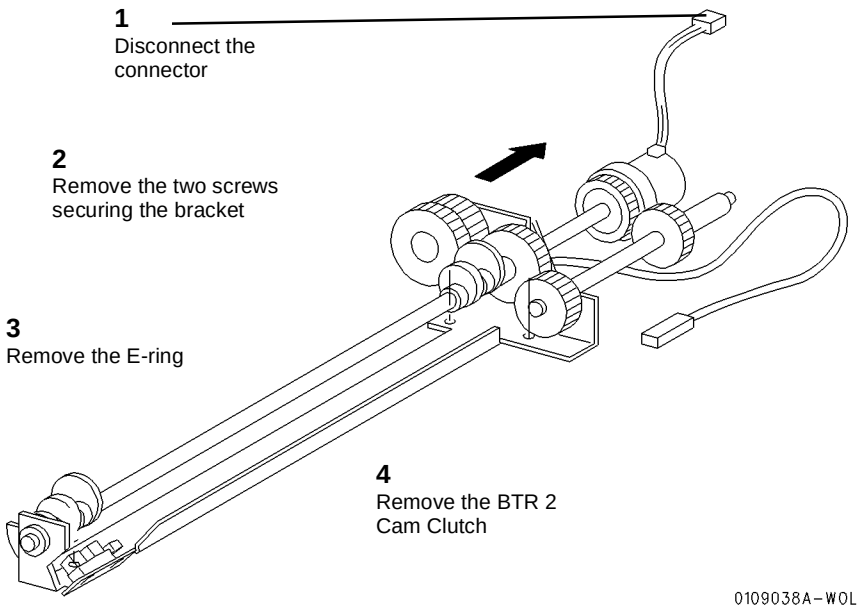



**Figure 1 Removing the BTR 2 Cam Clutch**

# REP 10.1 Fuser Assembly

## Parts List on PL 8.1

## Removal

### WARNING

**To avoid personal injury or shock, do not perform repair activities with the power switch on or electrical power applied to the machine.**

1. Switch off the machine power and disconnect the machine Power Cord.
2. Remove the Exit Tray Assembly (REP 8.30).
3. Remove the Fuser Assembly (Figure 1).

## Replacement

1. Reinstall the Fuser Assembly in the reverse order of removal.

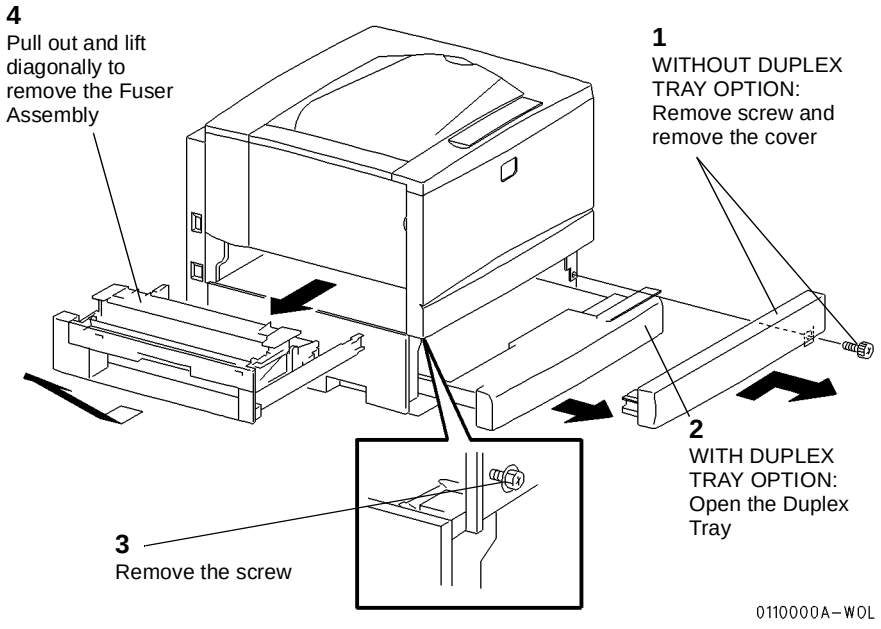

4
Pull out and lift diagonally to remove the Fuser Assembly
1
WITHOUT DUPLEX TRAY OPTION: Remove screw and remove the cover
2
WITH DUPLEX TRAY OPTION: Open the Duplex Tray
3
Remove the screw
0110000A-WOL

**Figure 1 Removing the Fuser Assembly**

# REP 10.2 Main Fuser Assembly

## Parts List on PL 8.2

## Removal

### WARNING

**To avoid personal injury or shock, do not perform repair activities with the power switch on or electrical power applied to the machine.**

1. Switch off the machine power and disconnect the machine Power Cord.
2. Remove the Main Fuser Assembly (Figure 1).

## Replacement

1. Reinstall the Main Fuser Assembly in the reverse order of removal.
2. Reset the Main Fuser Assembly counter (refer to Section 6, General Procedures).

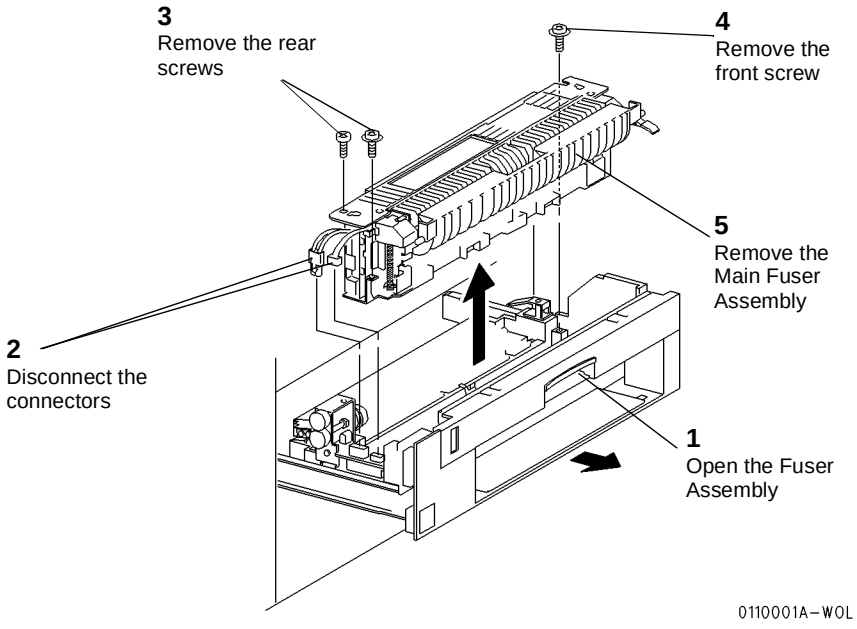



**Figure 1 Removing the Main Fuser Assembly**

# REP 10.3 Upper Guide Assembly

## Parts List on PL 8.2

## Removal

**WARNING**

**To avoid personal injury or shock, do not perform repair activities with the power switch on or electrical power applied to the machine.**

1. Switch off the machine power and disconnect the machine Power Cord.
2. Remove the Upper Guide Assembly (Figure 1).

## Replacement

1. Reinstall the Upper Guide Assembly in the reverse order of removal.

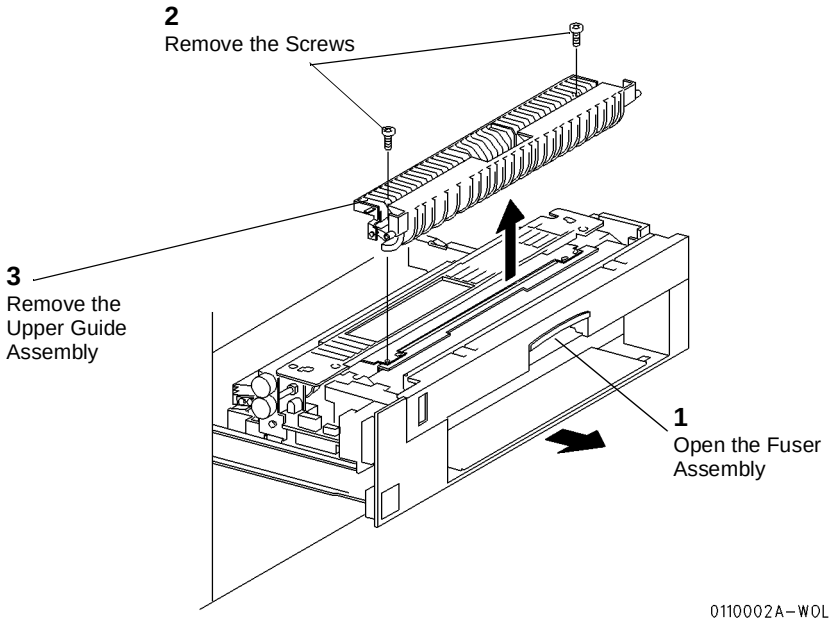



**Figure 1 Removing the Upper Guide Assembly**

# REP 10.4 Upper Plate

## Parts List on PL 8.2

## Removal

**WARNING**

**To avoid personal injury or shock, do not perform repair activities with the power switch on or electrical power applied to the machine.**

1. Switch off the machine power and disconnect the machine Power Cord.
2. Remove the Main Fuser Assembly (REP 10.2).
3. Remove the Upper Guide Assembly (REP 10.3).

**CAUTION**

*When the Upper Plate is removed in the following step, the Fuser Front Frame and Fuser Rear Frame will no longer be secured. Be careful not to damage the Heat Lamps.*

*One of the front screws and one of the rear screws also secure the wires for the Heat Roll Heat Lamp.*

*Be careful not to damage the surface of the Heat Roll with a screwdriver or other tools, when disengaging the Temperature Sensor.*

4. Remove the Upper Plate (Figure 1).

## Replacement

1. Reinstall the Upper Plate in the reverse order of removal.

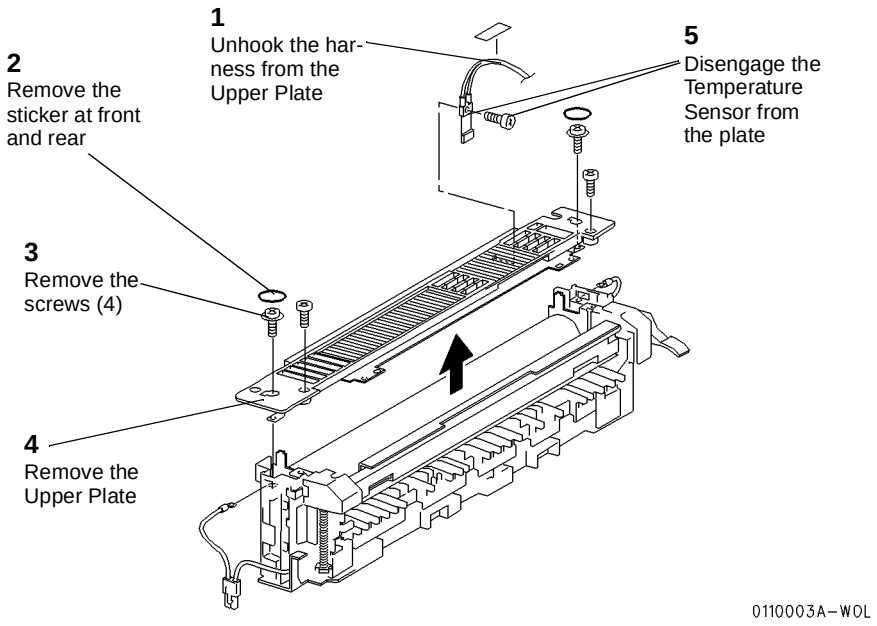



**Figure 1 Removing the Upper Plate**

# REP 10.5 Heat Roll Heat Lamp

## Parts List on PL 8.3

## Removal

**WARNING**

**To avoid personal injury or shock, do not perform repair activities with the power switch on or electrical power applied to the machine.**

1. Switch off the machine power and disconnect the machine Power Cord.
2. Remove the Main Fuser Assembly (REP 10.2).
3. Remove the Upper Guide Assembly (REP 10.3).
4. Remove the Upper Plate (REP 10.4).

**CAUTION**

*Be careful not to touch the surface of the Heat Roll Heat Lamp while removing the lamp. Contamination from hands can damage the lamp.*

*The connector for the Heat Roll Heat Lamp is tightly connected. Be careful not to damage the lamp when disconnecting the connector.*

*The gear is no longer secured when the Fuser Rear Cover is removed. Be careful not to allow the gear to fall out while removing the cover.*

5. Remove the Heat Roll Heat Lamp (Figure 1).

## Replacement

1. Reinstall the Heat Roll Heat Lamp in the reverse order of removal.
2. Check the Fuser Nip (ADJ 10.1).

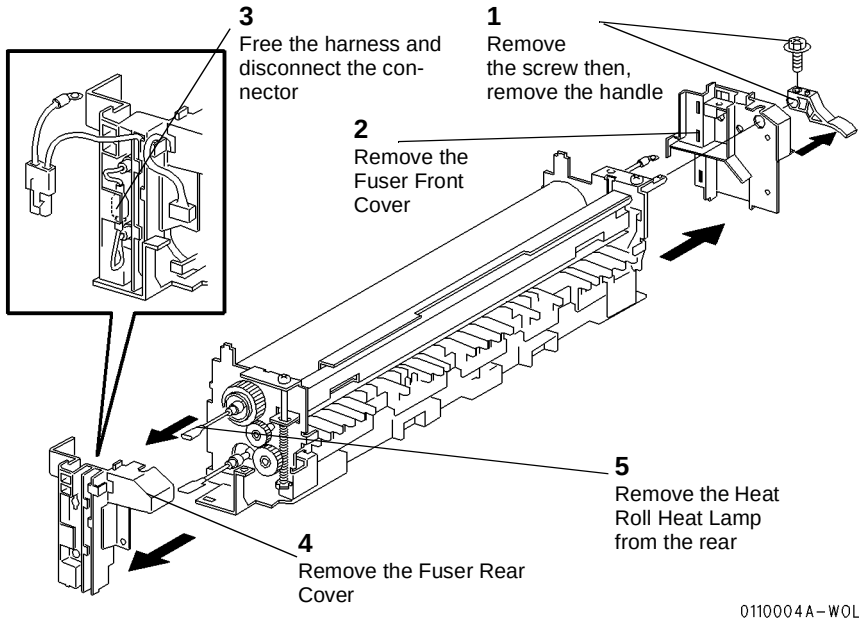



**Figure 1 Removing the Heat Roll Heat Lamp**

# REP 10.6 Pressure Roll Heat Lamp

## Parts List on PL 8.3

## Removal

### WARNING

**To avoid personal injury or shock, do not perform repair activities with the power switch on or electrical power applied to the machine.**

1. Switch off the machine power and disconnect the machine Power Cord.
2. Remove the Main Fuser Assembly (REP 10.2).
3. Remove the Upper Guide Assembly (REP 10.3).
4. Remove the Upper Plate (REP 10.4).

### CAUTION

*Be careful not to touch the surface of the Pressure Roll Heat Lamp while removing the lamp. Contamination from hands can damage the lamp.*

*The connector for the Pressure Roll Heat Lamp is tightly connected. Be careful not to damage the lamp when disconnecting the connector.*

*The gear is no longer secured when the Fuser Rear Cover is removed. Be careful not to allow the gear to fall out while removing the cover.*

5. Remove the Pressure Roll Heat Lamp (Figure 1).

## Replacement

1. Reinstall the Pressure Roll Heat Lamp in the reverse order of removal.
2. Check the Fuser Nip (ADJ 10.1).

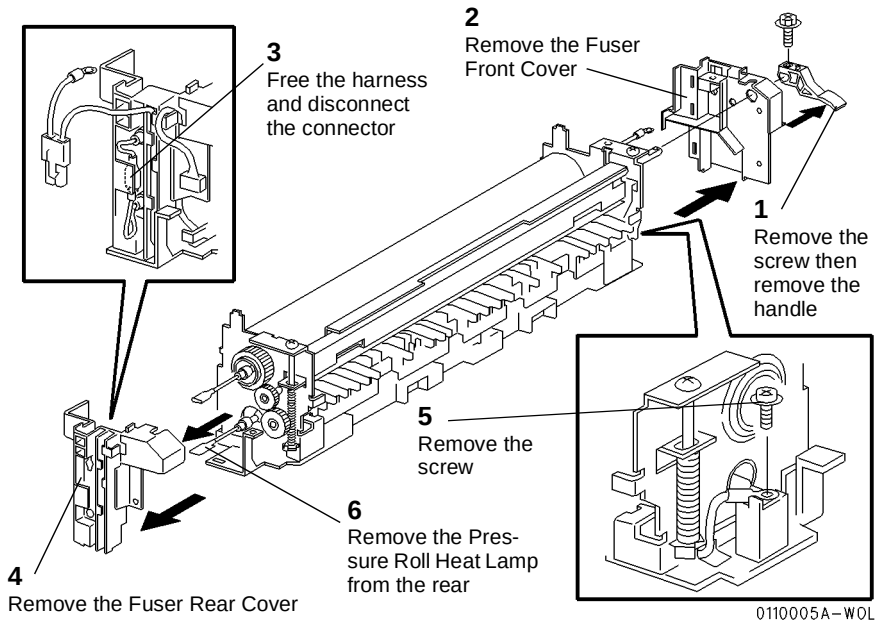



**Figure 1 Removing the Pressure Roll Heat Lamp**

# REP 10.7 Lower Guide Assembly

## Parts List on PL 8.2

## Removal

### WARNING

**To avoid personal injury or shock, do not perform repair activities with the power switch on or electrical power applied to the machine.**

1. Switch off the machine power and disconnect the machine Power Cord.
2. Remove the Main Fuser Assembly (REP 10.2).
3. Remove the Upper Guide Assembly (REP 10.3).

### CAUTION

*Be careful not to damage the surface of the Pressure Roll while removing the Lower Guide Assembly.*

4. Remove the Lower Guide Assembly (Figure 1).

## Replacement

### CAUTION

*Do not damage the Fuser Exit Actuators and ensure that the actuators do not interfere with the Fuser Exit Sensors and fall out while installing the Lower Guide Assembly.*

1. Reinstall the Lower Guide Assembly in the reverse order of removal.

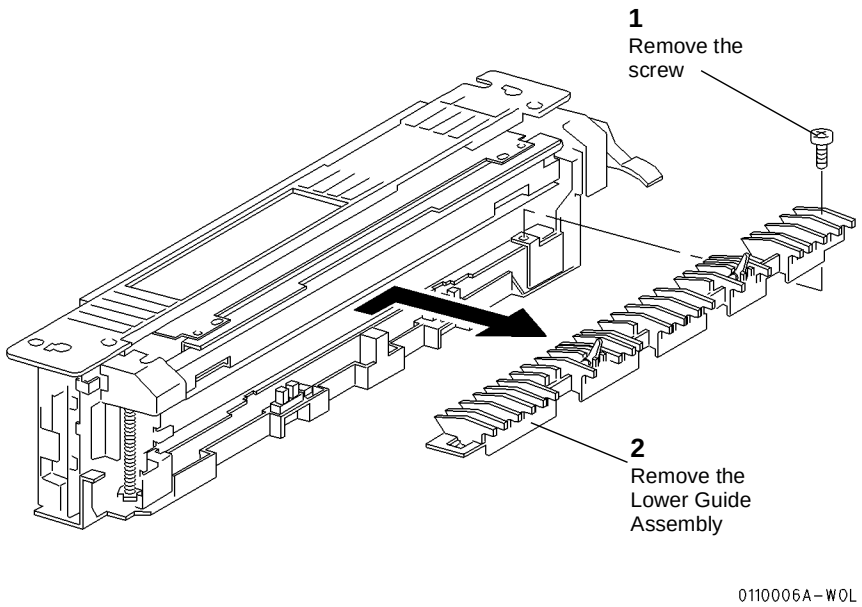



**Figure 1 Removing the Lower Guide Assembly**

# REP 10.8 Front Fuser Exit Sensor

## Parts List on PL 8.2

## Removal

### WARNING

**To avoid personal injury or shock, do not perform repair activities with the power switch on or electrical power applied to the machine.**

1. Switch off the machine power and disconnect the machine Power Cord.
2. Remove the Main Fuser Assembly (REP 10.2).
3. Remove the Upper Guide Assembly (REP 10.3).
4. Remove the Lower Guide Assembly (REP 10.7).
5. Remove the Front Fuser Exit Sensor (Figure 1).

## Replacement

1. Reinstall the Front Fuser Exit Sensor in the reverse order of removal.

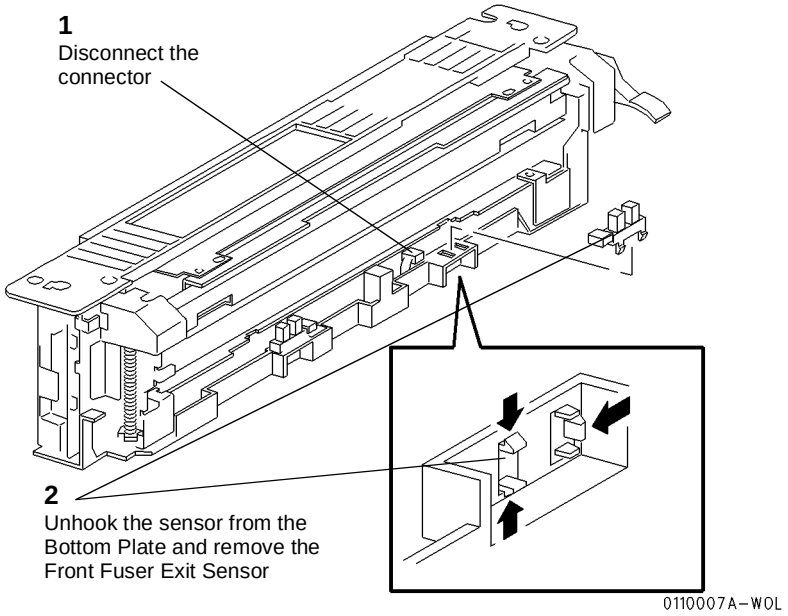

1
Disconnect the connector
2
Unhook the sensor from the Bottom Plate and remove the Front Fuser Exit Sensor
0110007A-WOL

**Figure 1 Removing the Front Fuser Exit Sensor**

# REP 10.9 Rear Fuser Exit Sensor

## Parts List on PL 8.2

## Removal

### WARNING

**To avoid personal injury or shock, do not perform repair activities with the power switch on or electrical power applied to the machine.**

1. Switch off the machine power and disconnect the machine Power Cord.
2. Remove the Main Fuser Assembly (REP 10.2).
3. Remove the Upper Guide Assembly (REP 10.3).
4. Remove the Lower Guide Assembly (REP 10.7).
5. Remove the Rear Fuser Exit Sensor (Figure 1).

## Replacement

1. Reinstall the Rear Fuser Exit Sensor in the reverse order of removal.

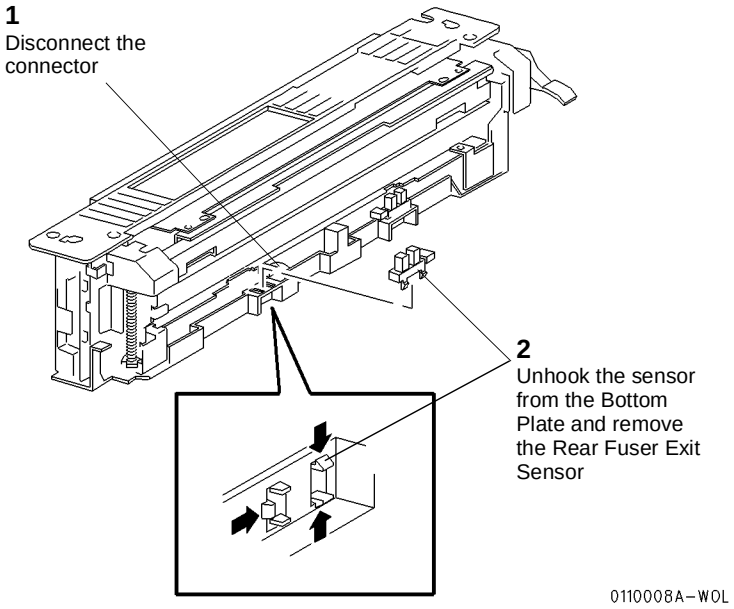



**Figure 1 Removing the Rear Fuser Exit Sensor**

# REP 10.10 Heat Roll

## Parts List on PL 8.3

## Removal

**WARNING**

**To avoid personal injury or shock, do not perform repair activities with the power switch on or electrical power applied to the machine.**

1. Switch off the machine power and disconnect the machine Power Cord.
2. Remove the Main Fuser Assembly (REP 10.2).
3. Remove the Upper Guide Assembly (REP 10.3).
4. Remove the Upper Plate (REP 10.4).
5. Remove the Heat Roll Heat Lamp (REP 10.5).

**CAUTION**

*Be careful not to damage the surface of the Heat Roll while removing the roll.*

6. Remove the Heat Roll (Figure 1).

## Replacement

1. Reinstall the Heat Roll in the reverse order of removal.
2. Check the Fuser Nip (ADJ 10.1).

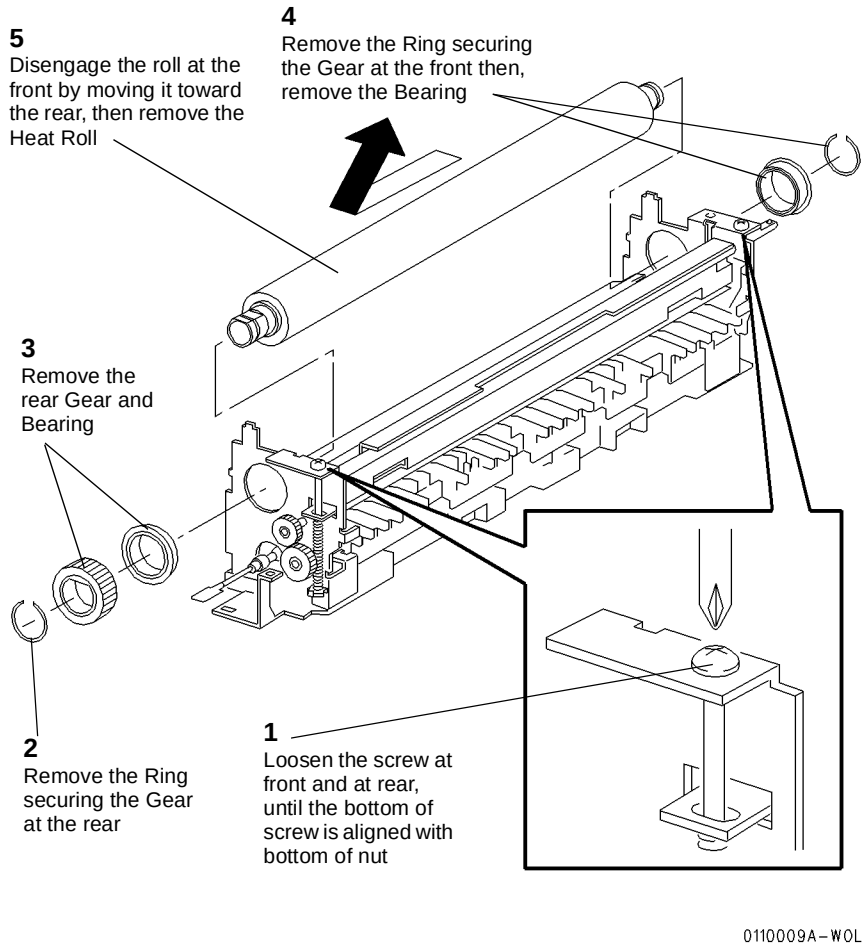

5
Disengage the roll at the front by moving it toward the rear, then remove the Heat Roll
4
Remove the Ring securing the Gear at the front then, remove the Bearing
3
Remove the rear Gear and Bearing
2
Remove the Ring securing the Gear at the rear
1
Loosen the screw at front and at rear, until the bottom of screw is aligned with bottom of nut
0110009A-WOL

**Figure 1 Removing the Heat Roll**

# REP 10.11 Pressure Roll

## Parts List on PL 8.3

## Removal

### WARNING

**To avoid personal injury or shock, do not perform repair activities with the power switch on or electrical power applied to the machine.**

1. Switch off the machine power and disconnect the machine Power Cord.
2. Remove the Main Fuser Assembly (REP 10.2).
3. Remove the Upper Guide Assembly (REP 10.3).
4. Remove the Upper Plate (REP 10.4).
5. Remove the Heat Roll Heat Lamp (REP 10.5).
6. Remove the Pressure Roll Heat Lamp (REP 10.6).
7. Remove the Lower Guide Assembly (REP 10.7).
8. Remove the Heat Roll (REP 10.10).
9. Prepare to remove the Pressure Roll (Figure 1).

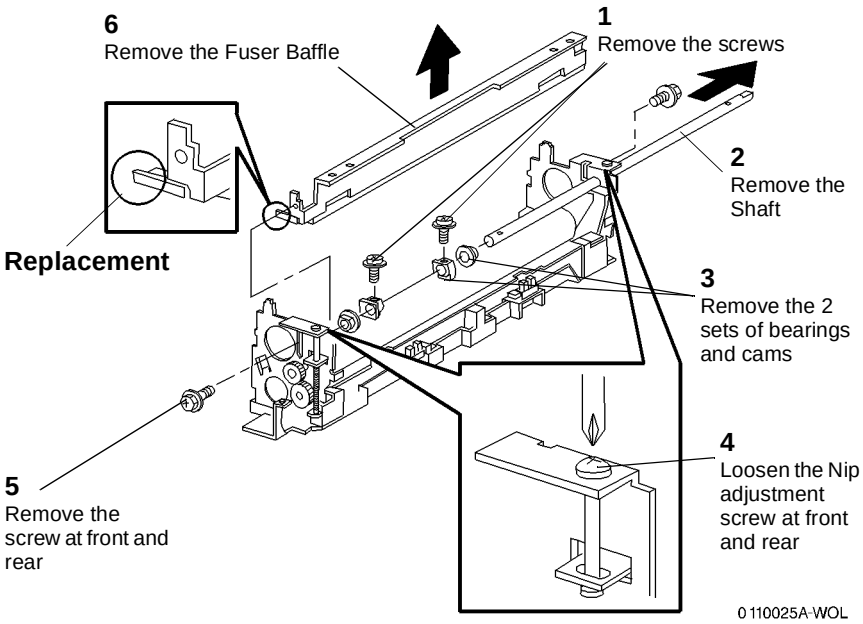



**Figure 1 Preparing to Remove the Pressure Roll**

### CAUTION

*Be sure not to damage the surface of the Pressure Roll while removing the roll.*

10. Remove the Pressure Roll (Figure 2).

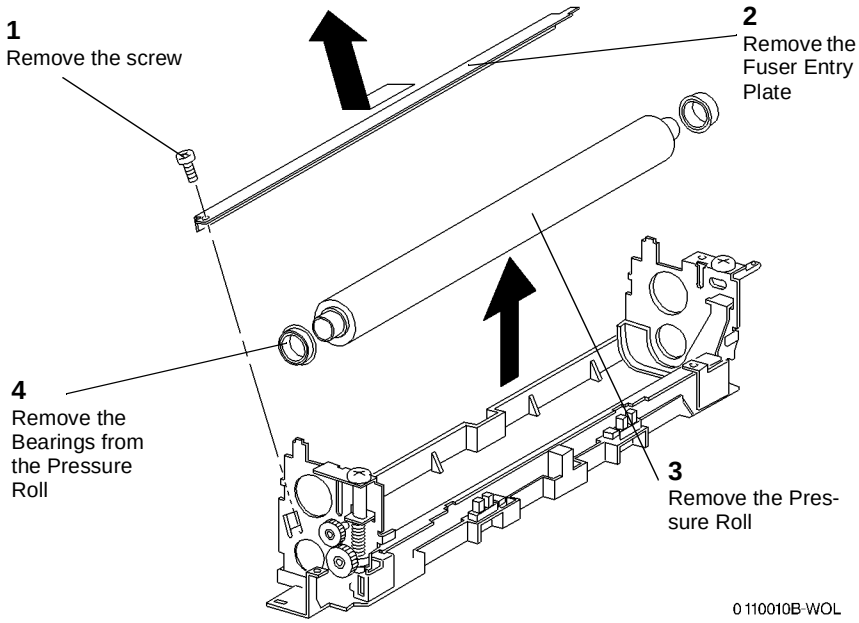



**Figure 2 Removing the Pressure Roll**

## Replacement

1. Reinstall the Pressure Roll in the reverse order of removal.
2. Install the Fuser Baffle so that the frames at both sides touch against the Heat Roll Bearings as shown in (Figure 1).
3. Check the Fuser Nip (ADJ 10.1).

# REP 10.12 Temperature Sensor

## Parts List on PL 8.2

## Removal

**WARNING**

**To avoid personal injury or shock, do not perform repair activities with the power switch on or electrical power applied to the machine.**

1. Switch off the machine power and disconnect the machine Power Cord.
2. Remove the Main Fuser Assembly (REP 10.2).
3. Remove the Upper Guide Assembly (REP 10.3).
4. Remove the Upper Plate (REP 10.4).
5. Remove the Heat Roll Heat Lamp (REP 10.5).
6. Remove the Pressure Roll Heat Lamp (REP 10.6).
7. Remove the Lower Guide Assembly (REP 10.7).
8. Remove the Heat Roll (REP 10.10).
9. Remove the Pressure Roll (REP 10.11)
10. Remove the Temperature Sensor (Figure 1).

## Replacement

1. Reinstall the Temperature Sensor in the reverse order of removal.
2. Install the harness on the Fuser Bottom Plate so that there is no slack in the harness.
3. Check the Fuser Nip (ADJ 10.1).

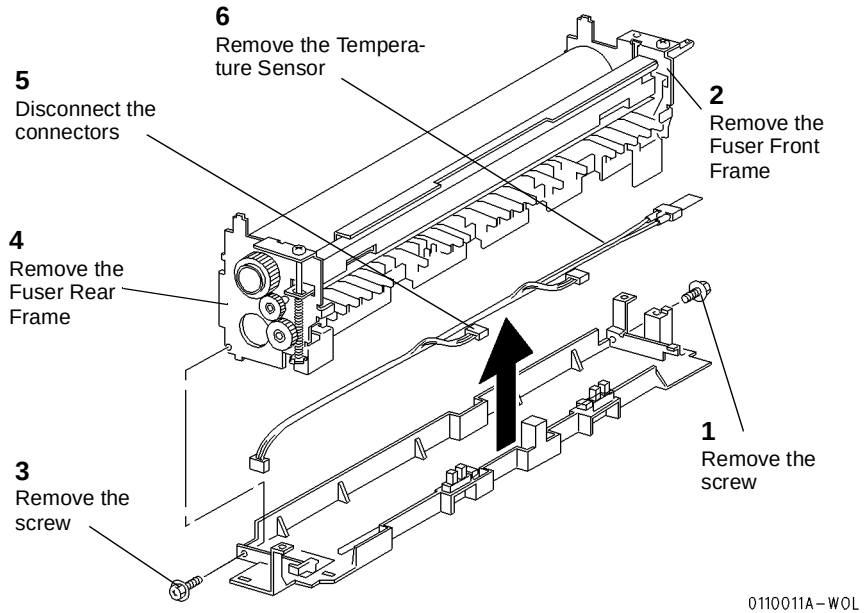



**Figure 1 Removing the Temperature Sensor**

# REP 10.13 Exchange Chute

## Parts List on PL 8.4

## Removal

### WARNING

**To avoid personal injury or shock, do not perform repair activities with the power switch on or electrical power applied to the machine.**

1. Switch off the machine power and disconnect the machine Power Cord.
2. Remove the Exit Tray Assembly (REP 8.30).
3. Remove the Fuser Assembly (REP 10.1).
4. Remove the Main Fuser Assembly (REP 10.2).

**CAUTION**

*Be careful not to damage the front or rear hinges of the Exchange Chute while removing the chute.*

5. Remove the Exchange Chute (Figure 1).

## Replacement

**CAUTION**

*Insert the U-shaped parts on the front and rear of the Exchange Chute securely into the plunger when installing the chute.*

1. Reinstall the Exchange Chute in the reverse order of removal.

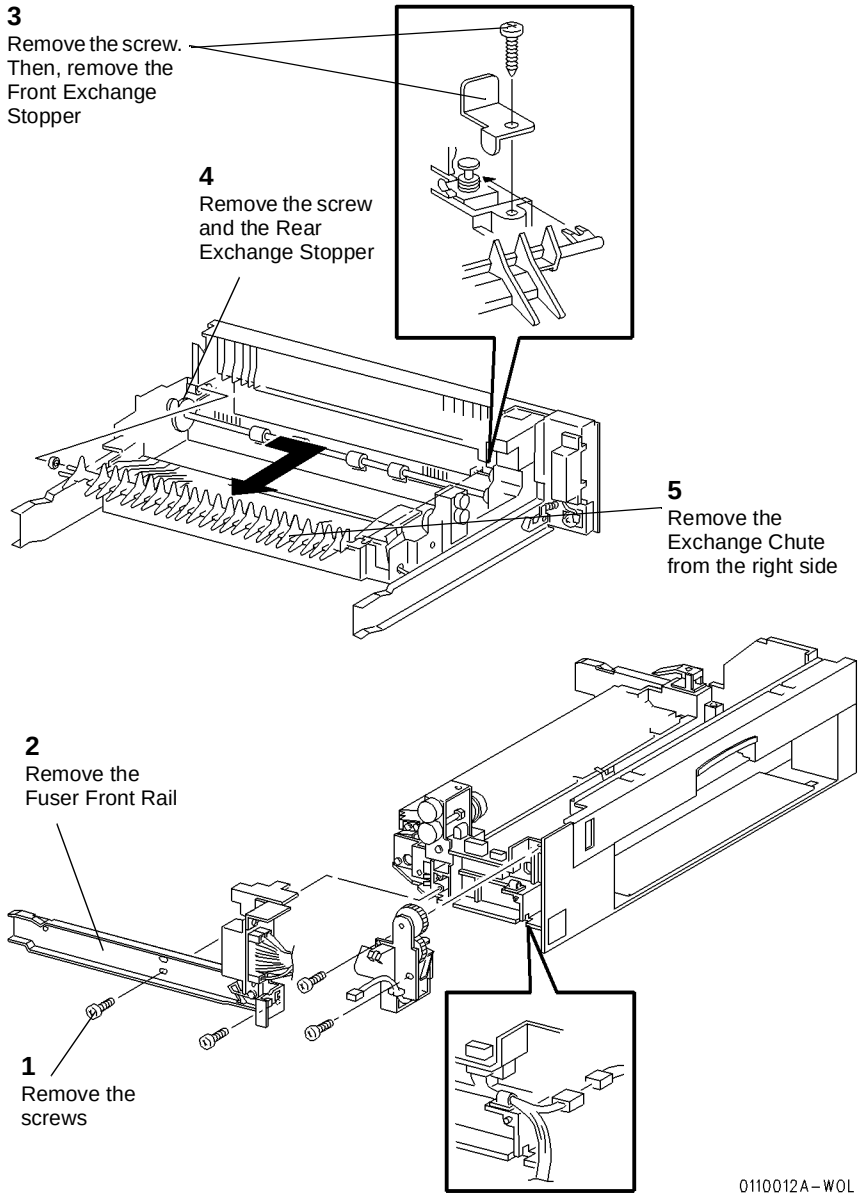



**Figure 1 Removing the Exchange Chute**

# REP 10.14 Exchange Solenoid

## Parts List on PL 8.5

## Removal

### WARNING

**To avoid personal injury or shock, do not perform repair activities with the power switch on or electrical power applied to the machine.**

1. Switch off the machine power and disconnect the machine Power Cord.
2. Remove the Exit Tray Assembly (REP 8.30).
3. Remove the Fuser Assembly (REP 10.1).
4. Remove the Main Fuser Assembly (REP 10.2).
5. Remove the Exchange Chute (REP 10.13).

**CAUTION**

*The Fuser Rear Rail and Fuser Tray Assembly are connected by a harness. Be careful not to pull too far apart while disassembling the components.*

*The gear is no longer secured when the EXCHANGE BRACKET is removed. Be careful not to allow the gear to fall out while disassembling the components.*

6. Remove the Exchange Solenoid (Figure 1).

## Replacement

1. Reinstall the Exchange Solenoid in the reverse order of removal.

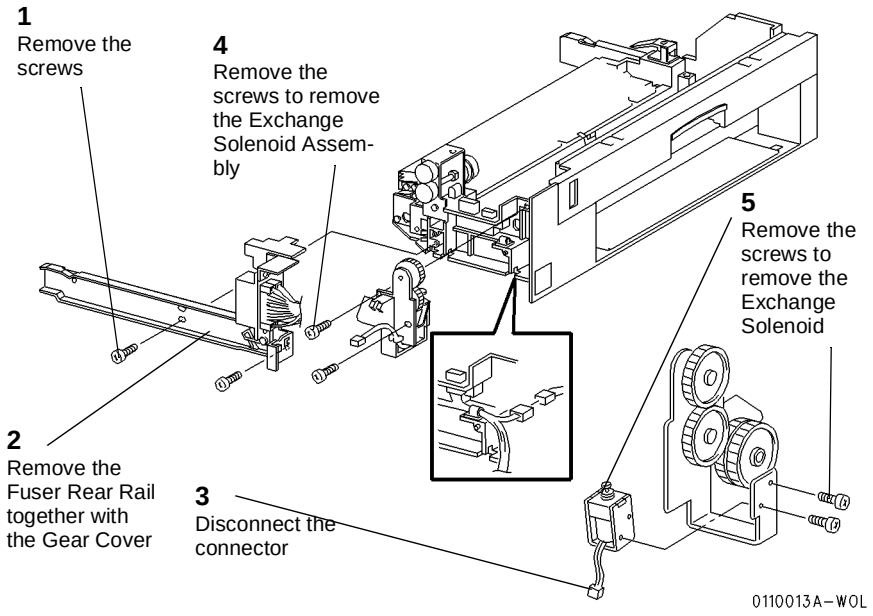



**Figure 1 Removing the Exchange Solenoid**

# REP 10.15 Cleaner Cam Solenoid

## Parts List on PL 8.7

## Removal

### WARNING

**To avoid personal injury or shock, do not perform repair activities with the power switch on or electrical power applied to the machine.**

1. Switch off the machine power and disconnect the machine Power Cord.
2. Remove the Exit Tray Assembly (REP 8.30).
3. Remove the Fuser Assembly (REP 10.1).
4. Remove the Main Fuser Assembly (REP 10.2).

**CAUTION**

*The Fuser Rear Rail and Fuser Tray Assembly are connected by a harness. Be careful not to pull too far apart while disassembling the components.*

5. Remove the Cleaner Cam Solenoid (Figure 1).

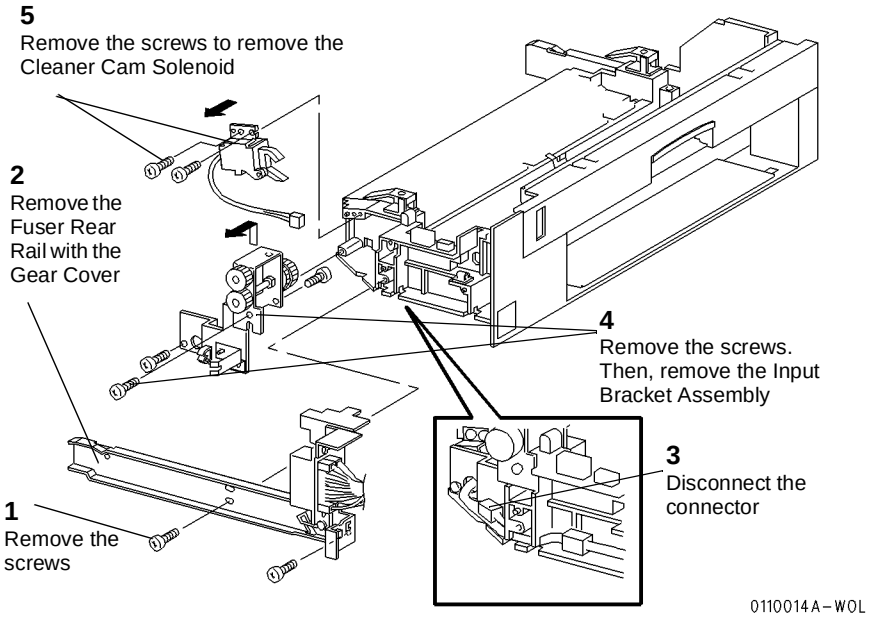



**Figure 1 Removing the Cleaner Cam Solenoid**

## Replacement

1. Position the Cleaner Cam Solenoid correctly (Figure 2).
2. Reinstall the Cleaner Cam Solenoid in the reverse order of removal.

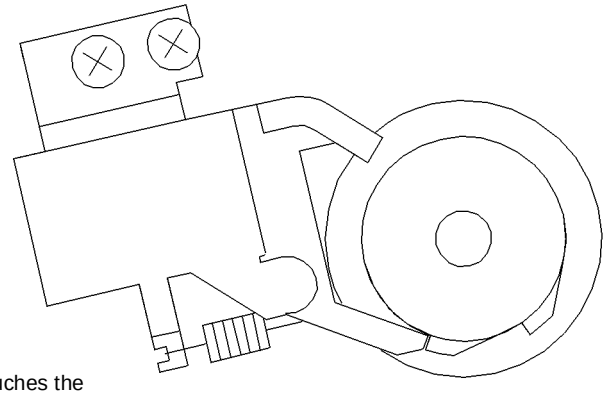



**Figure 2 Positioning the Cleaner Cam Solenoid**

# REP 10.16 Cleaner Cam Shaft

## Parts List on PL 8.7

## Removal

**WARNING**

**To avoid personal injury or shock, do not perform repair activities with the power switch on or electrical power applied to the machine.**

1. Switch off the machine power and disconnect the machine Power Cord.
2. Remove the Exit Tray Assembly (REP 8.30).
3. Remove the Fuser Assembly (REP 10.1).
4. Remove the Main Fuser Assembly (REP 10.2).
5. Remove the Cleaner Cam Solenoid (REP 10.15)

**CAUTION**

*Be sure not to drop and lose the Cleaner Cam Pin when removing the Cleaner Cam Shaft.*

6. Remove the Cleaner Cam Shaft (Figure 1).

## Replacement

1. Reinstall the Cleaner Cam Shaft in the reverse order of removal.

***NOTE:*** *The right/left direction of the cam must be adjusted after installing it.*

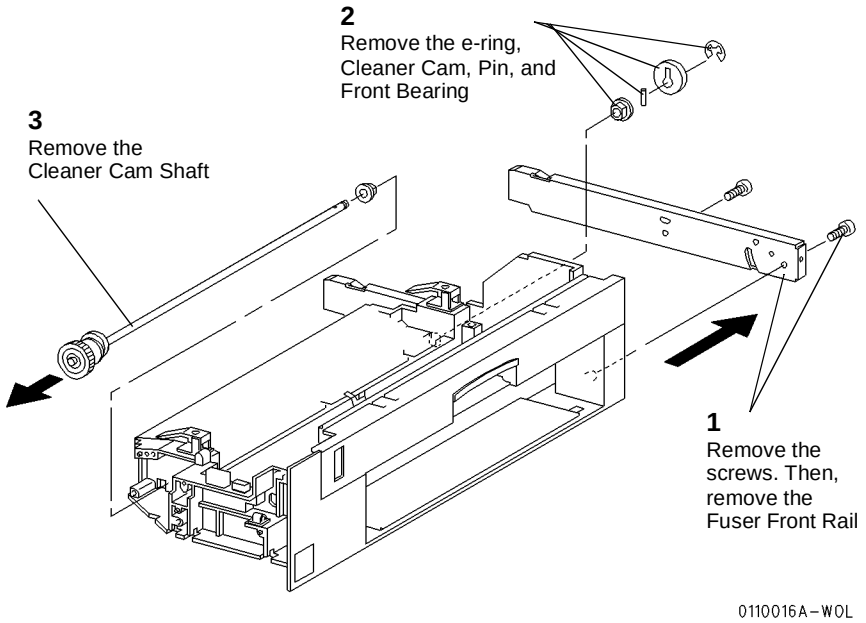



**Figure 1 Removing the Cleaner Cam Shaft**

# REP 10.17 Exit Roll

## Parts List on PL 8.4

## Repair

**WARNING**

**To avoid personal injury or shock, do not perform repair activities with the power switch on or electrical power applied to the machine.**

1. Switch off the machine power and disconnect the machine Power Cord.
2. Remove the Exit Tray Assembly (REP 8.30).
3. Remove the Fuser Assembly (REP 10.1).
4. Remove the Main Fuser Assembly (REP 10.2).

**CAUTION**

*The rear Exit Roll Bearing remains but is not secured to the tray when the following step of the procedure is performed. Be careful not to lose the bearing.*

5. Remove the Exit Roll (Figure 1).

## Replacement

1. Reinstall the Exit Roll in the reverse order of removal.

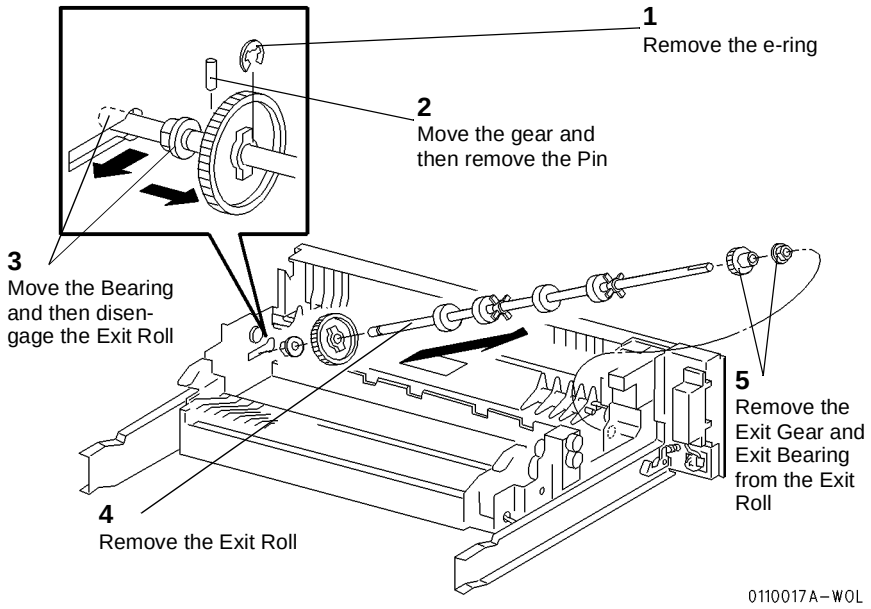



**Figure 1 Removing the Exit Roll**

# REP 10.18 Fuser Entrance Sensor

## Parts List on PL 8.6

## Removal

### WARNING

**To avoid personal injury or shock, do not perform repair activities with the power switch on or electrical power applied to the machine.**

1. Switch off the machine power and disconnect the machine Power Cord.
2. Remove the Fuser Assembly (REP 10.1).
3. Prepare to remove the Fuser Entrance Sensor (Figure 1).

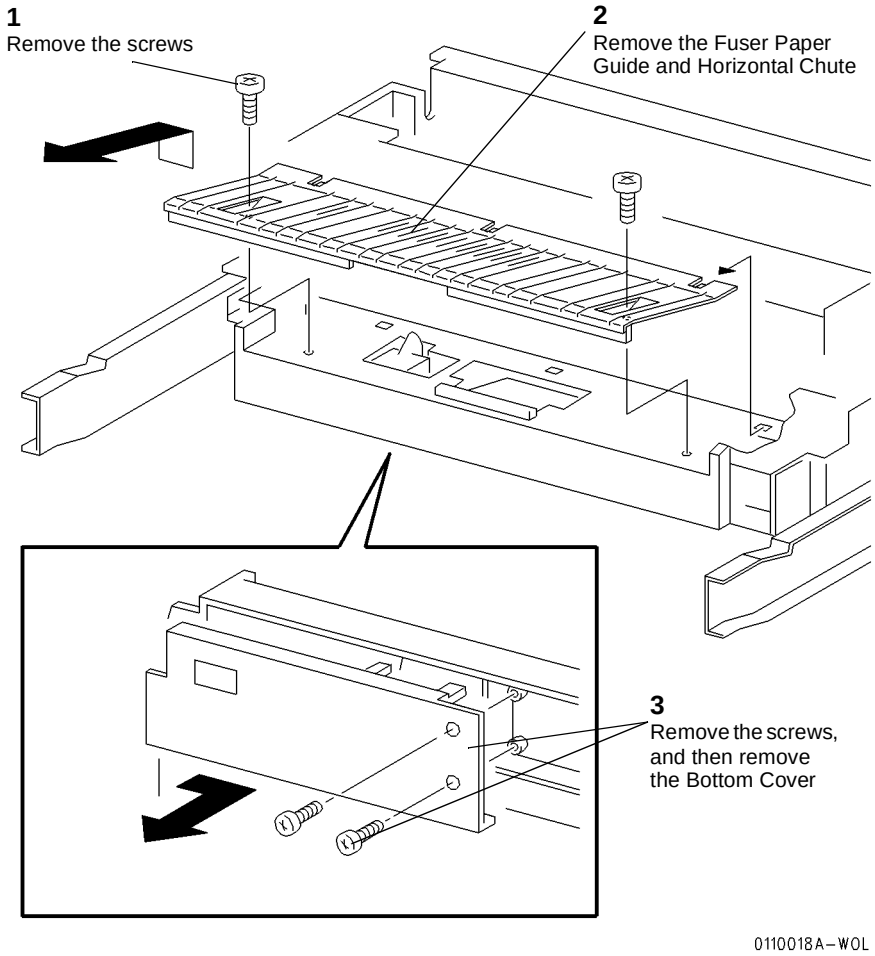



**Figure 1 Preparing to Remove the Fuser Entrance Sensor**

4. Remove the Fuser Entrance Sensor (Figure 2).

## Replacement

1. Reinstall the Fuser Entrance Sensor in the reverse order of removal.

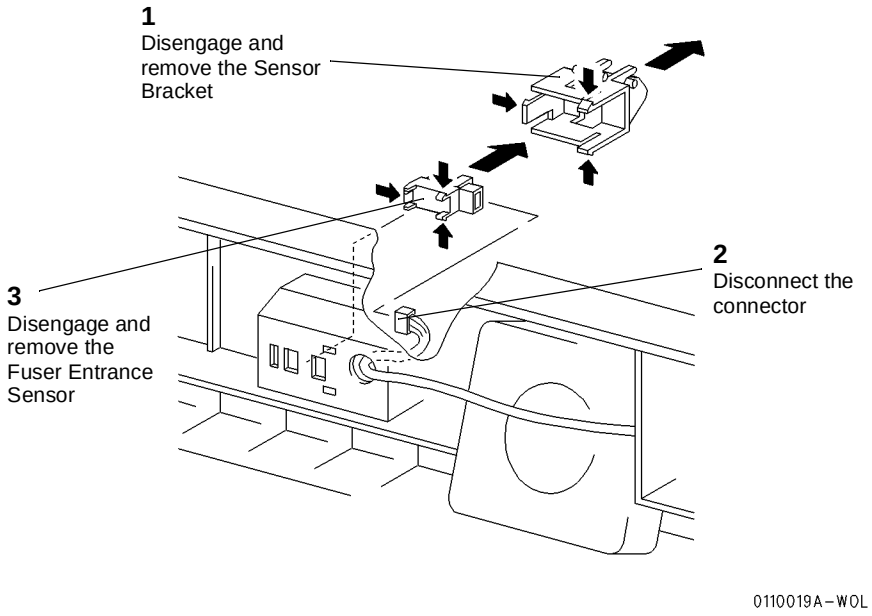



**Figure 2 Removing the Fuser Entrance Sensor**

# REP 10.19 Fuser Chute Fan

## Parts List on PL 8.6

## Removal

### WARNING

**To avoid personal injury or shock, do not perform repair activities with the power switch on or electrical power applied to the machine.**

1. Switch off the machine power and disconnect the machine Power Cord.
2. Remove the Fuser Assembly (REP 10.1).
3. Prepare to remove the Fuser Chute Fan (Figure 1).

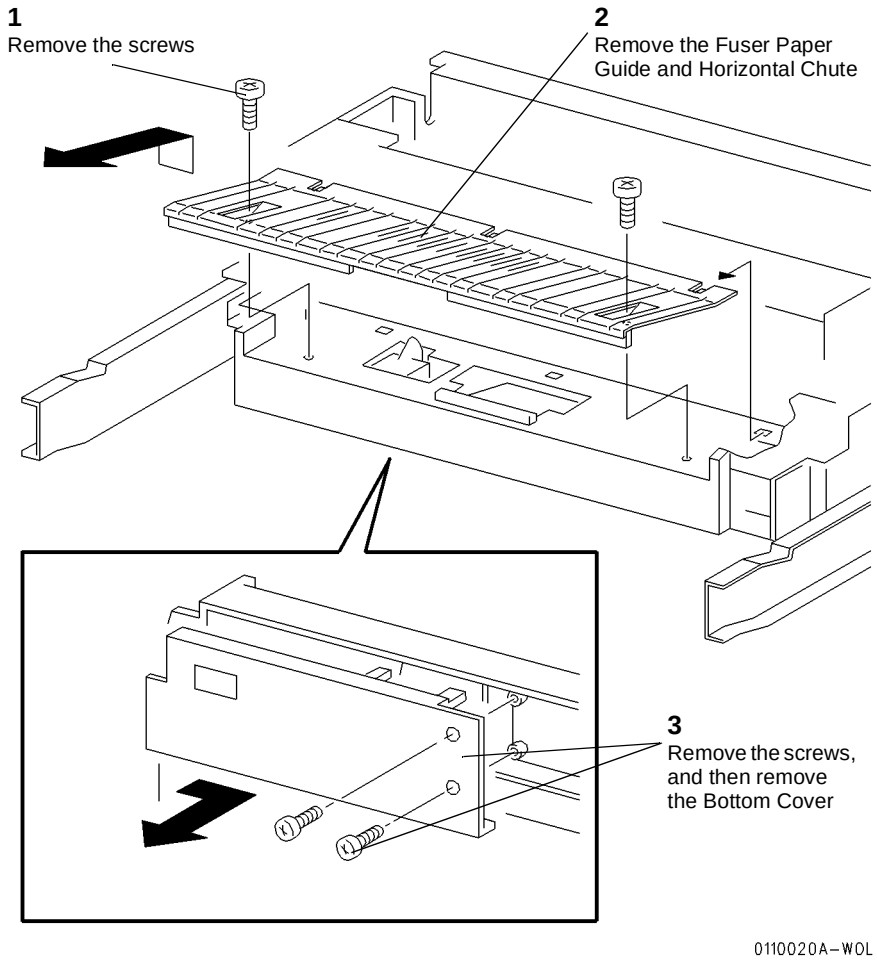



**Figure 1 Preparing to Remove the Fuser Chute Fan**

4. Remove the Fuser Chute Fan (Figure 2).

## Replacement

1. Reinstall the Fuser Chute Fan in the reverse order of removal.

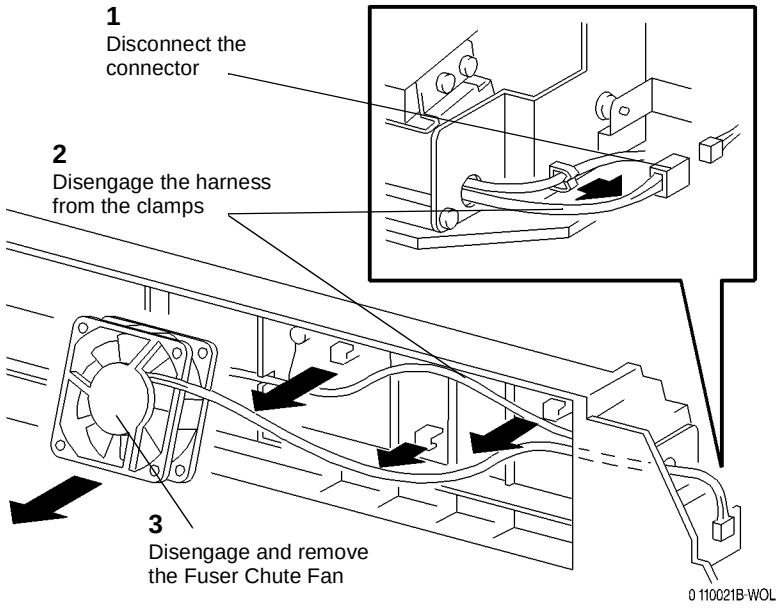



**Figure 2 Removing the Fuser Chute Fan**

# REP 11.1 Sorter

## Parts List on PL 19.1

## Removal

### WARNING

**To avoid personal injury or shock, do not perform repair activities with the power switch on or electrical power applied to the machine.**

1. Switch off the machine power and disconnect the machine Power Cord.
2. Remove the Sorter from the IOT (Figure 1).

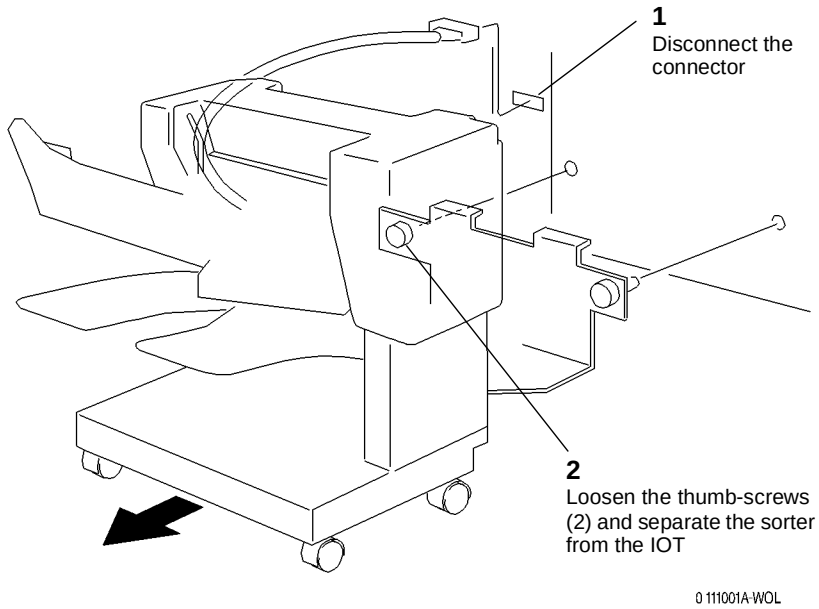



**Figure 1 Removing the Sorter**

## Replacement

1. Perform the procedure for removal in reverse.

# REP 11.2 Bottom Cover

## Parts List on PL 19.3

## Removal

### WARNING

**To avoid personal injury or shock, do not perform repair activities with the power switch on or electrical power applied to the machine.**

1. Switch off the machine power and disconnect the machine Power Cord.
2. Remove the Bottom Cover (Figure 1).

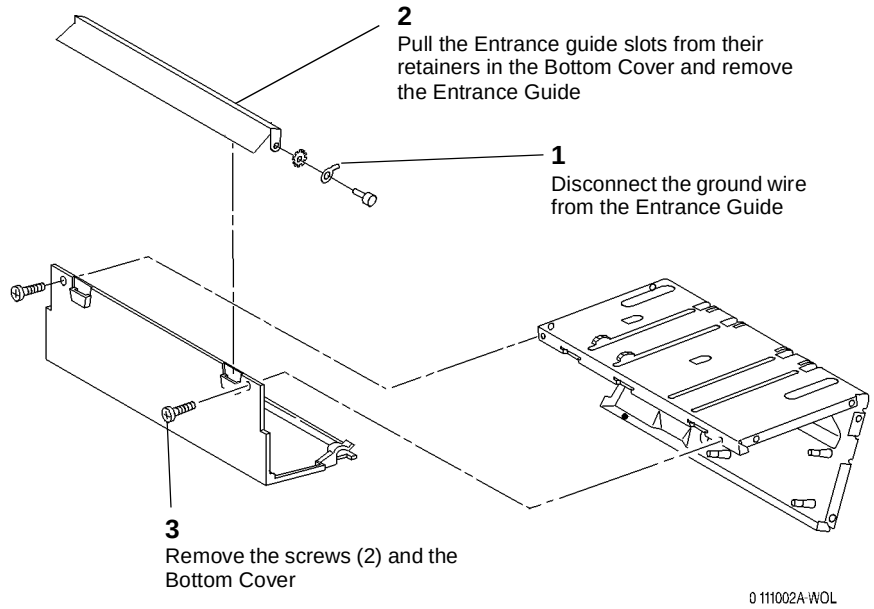

2
Pull the Entrance guide slots from their retainers in the Bottom Cover and remove the Entrance Guide
1
Disconnect the ground wire from the Entrance Guide
3
Remove the screws (2) and the Bottom Cover
0 111002A-WOL

**Figure 1 Removing the Bottom Cover**

## Replacement

1. Perform the procedure for removal in reverse.

# REP 11.3 Sorter Control PWB

## Parts List on PL 19.1

## Removal

### WARNING

**To avoid personal injury or shock, do not perform repair activities with the power switch on or electrical power applied to the machine.**

1. Switch off the machine power and disconnect the machine Power Cord.
2. Remove the Front Cover.

**CAUTION**

*The PWB components are highly susceptible to damage from electrostatic discharge (ESD) and extreme care should be used when handling these components. Use of the ESD Field Service Kit is required.*

***NOTE:*** *Take note of the connector positioning prior to disconnecting all connectors. This will simplify reinstallation, later.*

3. Remove the Sorter Control PWB (Figure 1)

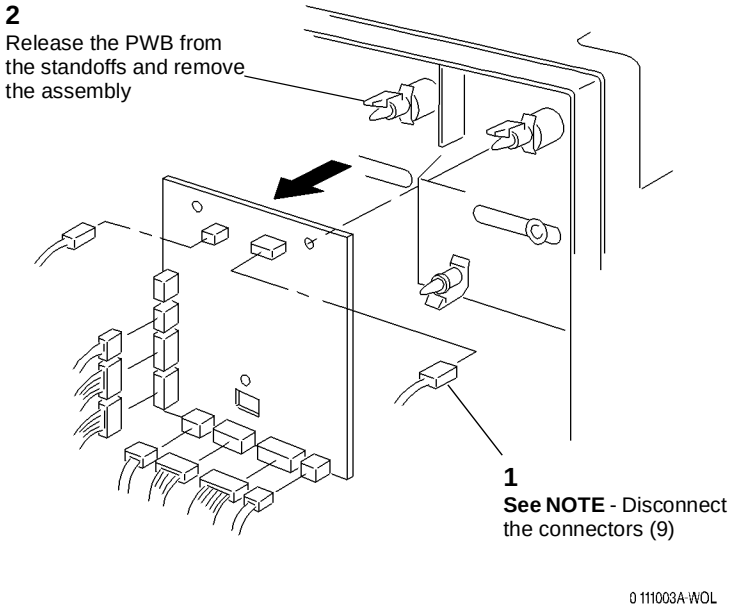



**Figure 1 Removing the Sorter Control PWB**

## Replacement

1. Perform the procedure for removal in reverse.

# REP 11.4 Sorter Transport Motor

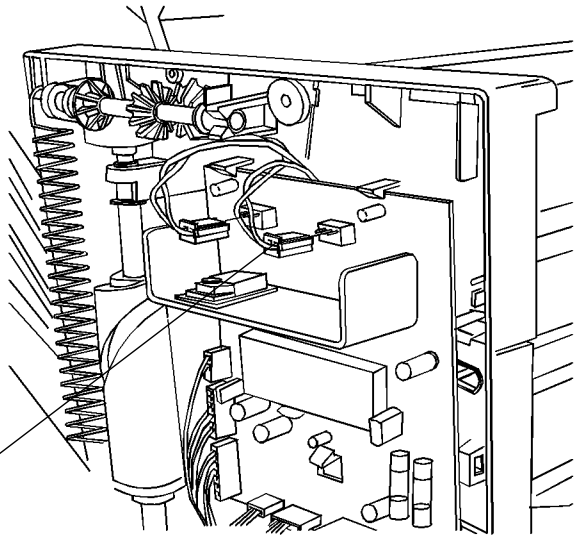
## Parts List on PL 19.2

## Removal

### WARNING

**To avoid personal injury or shock, do not perform repair activities with the power switch on or electrical power applied to the machine.**

1. Switch off the machine power and disconnect the machine Power Cord.
2. Remove the Rear Cover.
3. Remove the Front Cover.
4. Disconnect the motor connector from the PWB and release the wires (Figure 1)

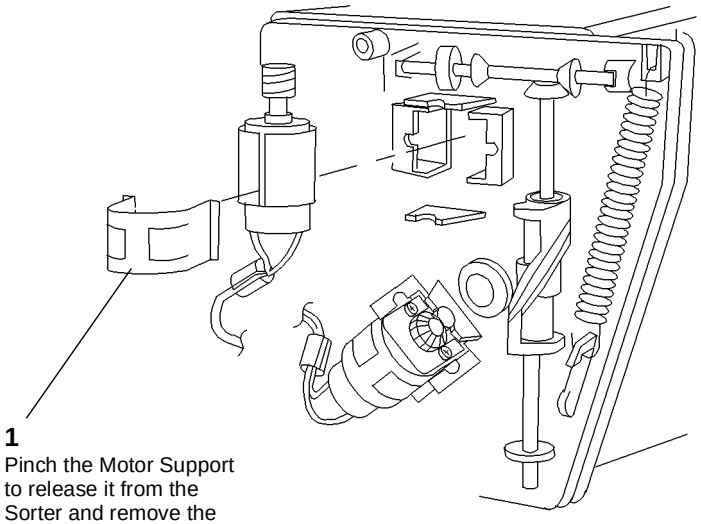


**1**
Disconnect the Sorter Transport Motor connector, release the wires from the harness and feed the wires back through the Sorter to the motor

0 111014A-WOL

**Figure 1 Disconnecting the Motor**

5. Remove the Sorter Transport Motor (Figure 2).



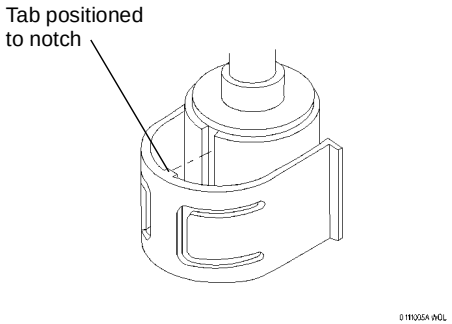
**1**
Pinch the Motor Support to release it from the Sorter and remove the support and motor

0 111004A-WOL

**Figure 2 Removing the Sorter Transport Motor**

## Replacement

1. Perform the procedure for removal in reverse.
2. Make sure the Support is properly positioned to the Motor (Figure 3).




0 111005A-WOL

**Figure 3 Motor Support Positioning**

# REP 11.5 Sensor Receiver

## Parts List on PL 19.2

## Removal

### WARNING

**To avoid personal injury or shock, do not perform repair activities with the power switch on or electrical power applied to the machine.**

1. Switch off the machine power and disconnect the machine Power Cord.
2. Remove the Sensor Receiver (Figure 1).

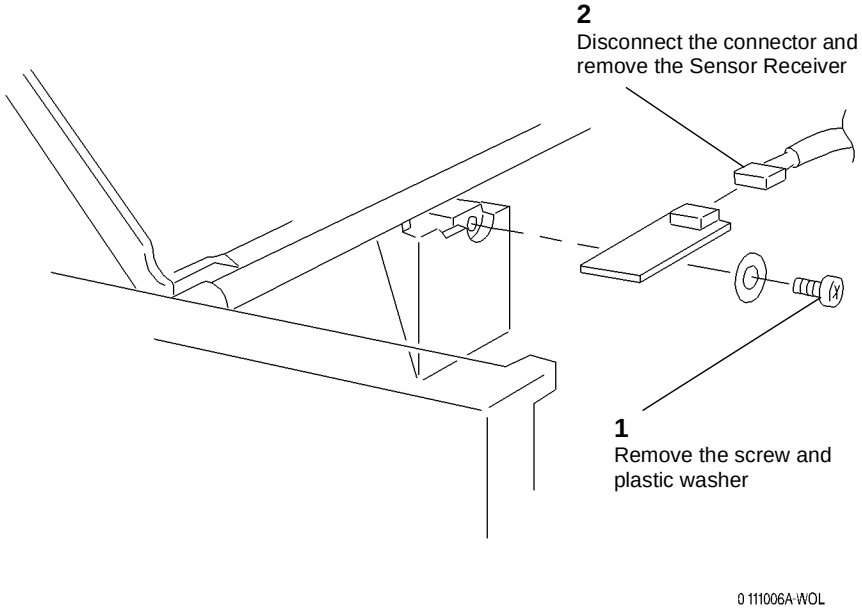



**Figure 1 Removing the Sensor Receiver**

## Replacement

1. Perform the procedure for removal in reverse.

# REP 11.6 Sensor Transmitter

## Parts List on PL 19.3

## Removal

### WARNING

**To avoid personal injury or shock, do not perform repair activities with the power switch on or electrical power applied to the machine.**

1. Switch off the machine power and disconnect the machine Power Cord.
2. Remove the Bottom Cover (REP 11.2).
3. Disconnect the connector (Figure 1).

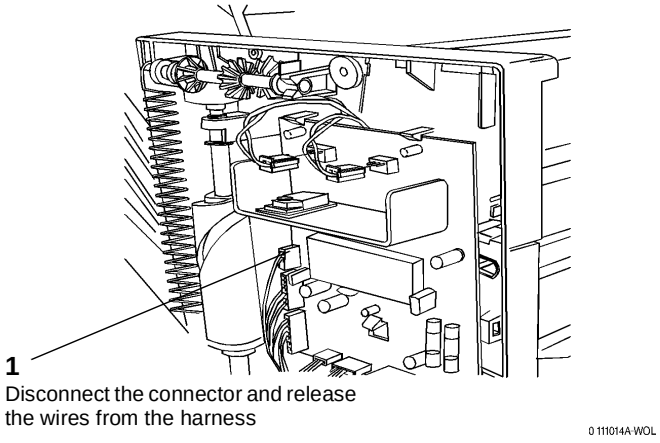



**Figure 1 Disconnecting the Connector**

4. Remove the Sensor Transmitter (Figure 2).

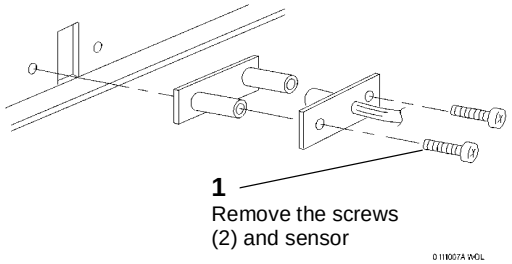



**Figure 2 Removing the Sensor Transmitter**

## Replacement

1. Perform the procedure for removal in reverse.

# REP 11.7 Sorter Path Sensor

## Parts List on PL 19.3

## Removal

### WARNING

**To avoid personal injury or shock, do not perform repair activities with the power switch on or electrical power applied to the machine.**

1. Switch off the machine power and disconnect the machine Power Cord.
2. Remove the Bottom Cover (REP 11.2).
3. Remove the Sorter Path Sensor (Figure 1).

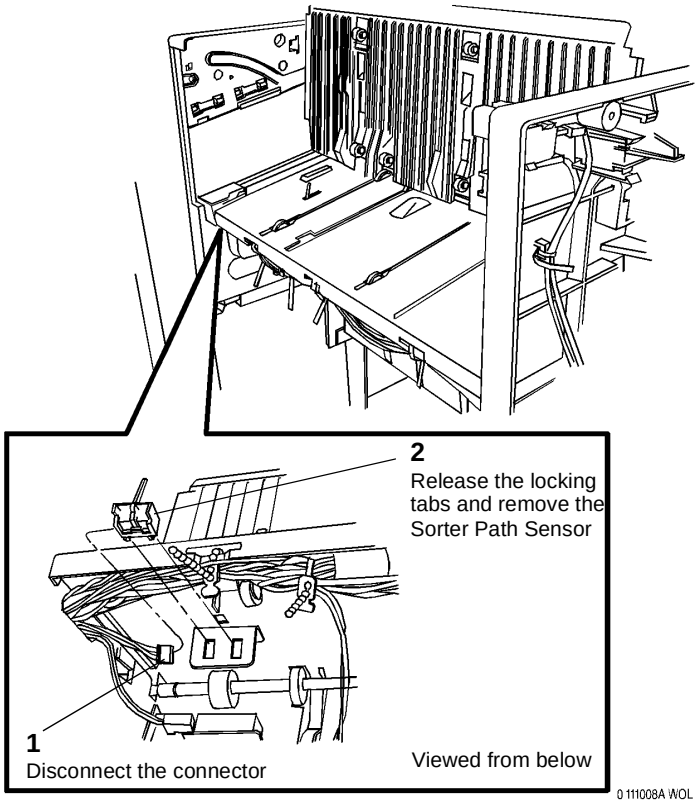



**Figure 1 Removing the Sorter Path Sensor**

## Replacement

1. Perform the procedure for removal in reverse.

# REP 11.8 Full Sensor

## Parts List on PL 19.3

## Removal

### WARNING

**To avoid personal injury or shock, do not perform repair activities with the power switch on or electrical power applied to the machine.**

1. Switch off the machine power and disconnect the machine Power Cord.
2. Remove the Bottom Cover (REP 11.2).
3. Remove the Full Sensor (Figure 1).

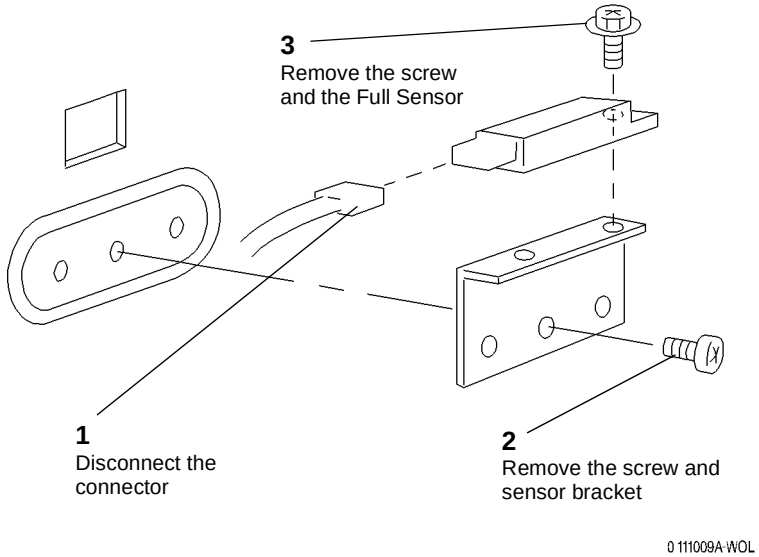



**Figure 1 Removing the Full Sensor**

## Replacement

1. Perform the procedure for removal in reverse.

# REP 11.9 Bin Drive Motor

## Parts List on PL 19.4

## Removal

### WARNING

**To avoid personal injury or shock, do not perform repair activities with the power switch on or electrical power applied to the machine.**

1. Switch off the machine power and disconnect the machine Power Cord.
2. Remove the Rear Cover.
3. Remove the Front Cover.
4. Disconnect the motor connector from the PWB and release the wires (Figure 1)

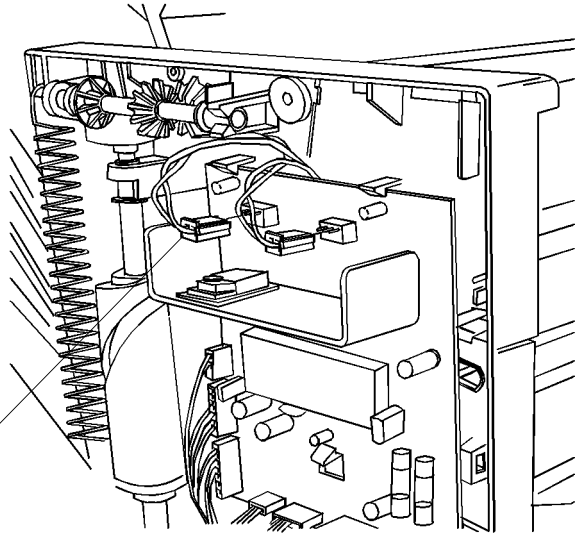

1
Disconnect the Bin Drive Motor, release the wires from the harness, and feed the wires back through the Sorter to the Bin Drive Motor
0 111014A-WOL

**Figure 1 Disconnecting the Motor**

5. Remove the Bin Drive Motor (Figure 2).

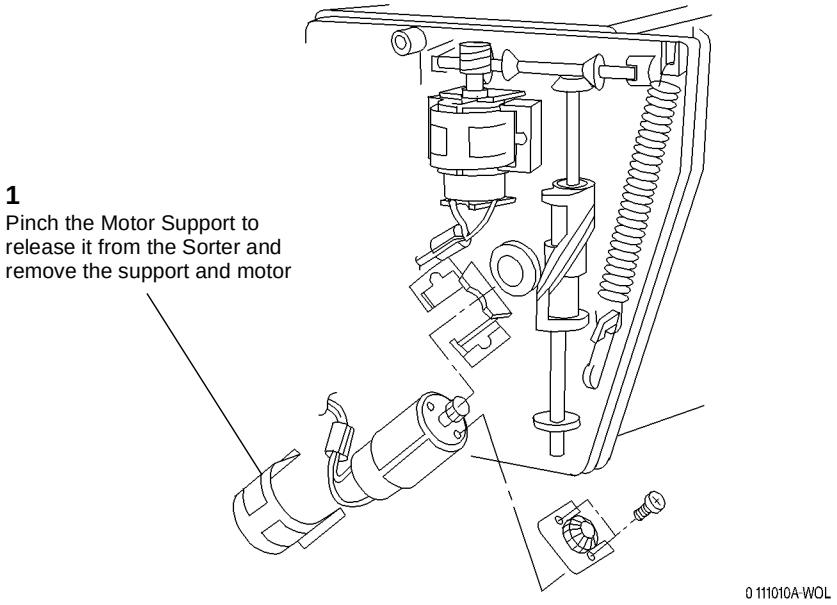



**Figure 2 Removing the Bin Drive Motor**

## Replacement

1. Perform the procedure for removal in reverse.
2. Make sure the Support is properly positioned to the Motor (Figure 3).

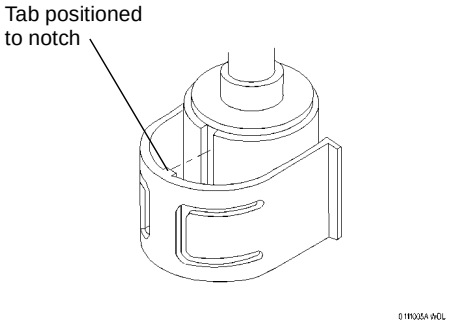



**Figure 3 Motor Support Positioning**

# REP 11.10 Front / Rear Gear Shaft

## Parts List on PL 19.4

## Removal

### WARNING

**To avoid personal injury or shock, do not perform repair activities with the power switch on or electrical power applied to the machine.**

1. Switch off the machine power and disconnect the machine Power Cord.
2. Remove the Front Cover or Rear Cover as required.

***NOTE:*** *The removal procedure for both the Front and Rear Gear Shafts are the same.*

3. Remove the Front / Rear Gear Shaft (Figure 1).

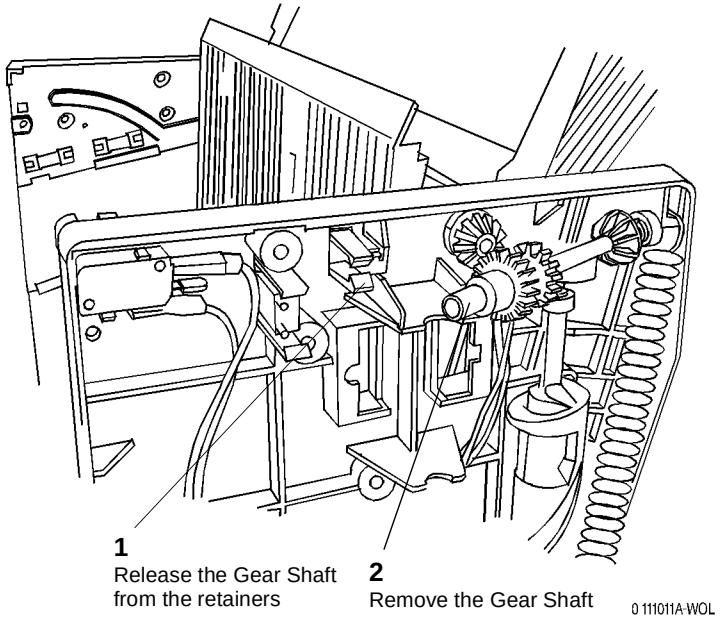



**Figure 1 Removing the Front / Rear Gear Shaft**

## Replacement

1. Perform the procedure for removal in reverse.
2. Perform a Sorter Bin Cam Position Adjustment (ADJ 11.1)

# REP 11.11 Front / Rear Bin Cam

## Parts List on PL 19.4

## Removal

### WARNING

**To avoid personal injury or shock, do not perform repair activities with the power switch on or electrical power applied to the machine.**

1. Switch off the machine power and disconnect the machine Power Cord.
2. Remove the Front Cover or Rear Cover as required.

***NOTE:*** *The removal procedure for both the Front and Rear Bin Cams are the same.*

3. Remove the Front / Rear Bin Cam (Figure 1).

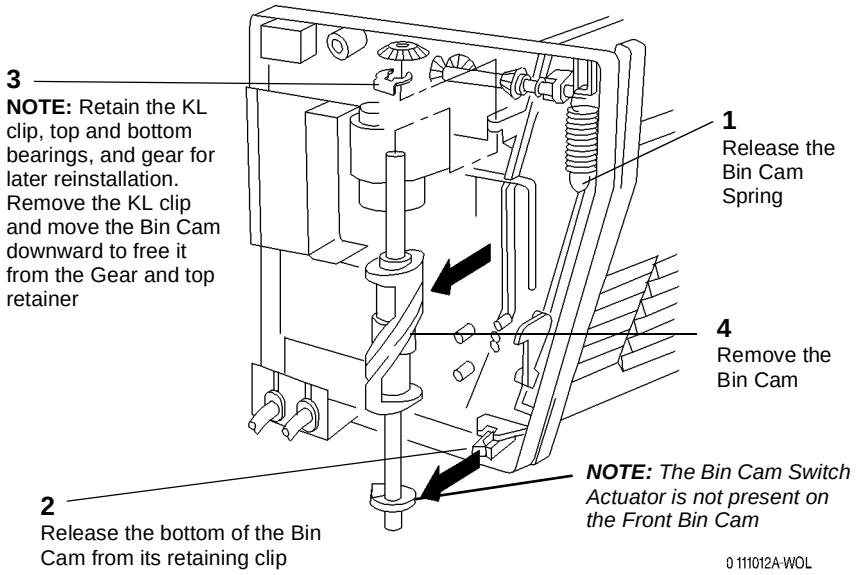

3
NOTE: Retain the KL clip, top and bottom bearings, and gear for later reinstallation. Remove the KL clip and move the Bin Cam downward to free it from the Gear and top retainer
1
Release the Bin Cam Spring
4
Remove the Bin Cam
NOTE: The Bin Cam Switch Actuator is not present on the Front Bin Cam
2
Release the bottom of the Bin Cam from its retaining clip
0 111012A-WOL

**Figure 1 Removing the Front / Rear Bin Cam**

## Replacement

1. Perform the procedure for removal in reverse.
2. Perform a Sorter Bin Cam Position Adjustment (ADJ 11.1)

# REP 11.12 Bin Cam Switch

## Parts List on PL 19.4

## Removal

**WARNING**

**To avoid personal injury or shock, do not perform repair activities with the power switch on or electrical power applied to the machine.**

1. Switch off the machine power and disconnect the machine Power Cord.
2. Remove the Rear Cover.
3. Remove the Bin Cam Switch (Figure 1).

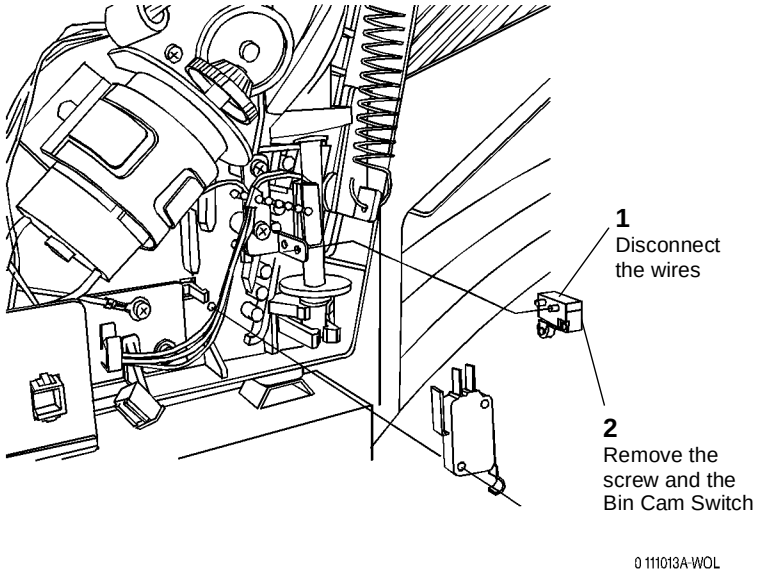



**Figure 1 Removing the Bin Cam Switch**

## Replacement

1. Perform the procedure for removal in reverse.

# REP 11.13 Bin Home Switch

## Parts List on PL 19.4

## Removal

**WARNING**

**To avoid personal injury or shock, do not perform repair activities with the power switch on or electrical power applied to the machine.**

1. Switch off the machine power and disconnect the machine Power Cord.
2. Remove the Rear Cover.
3. Remove the Bin Home Switch (Figure 1).

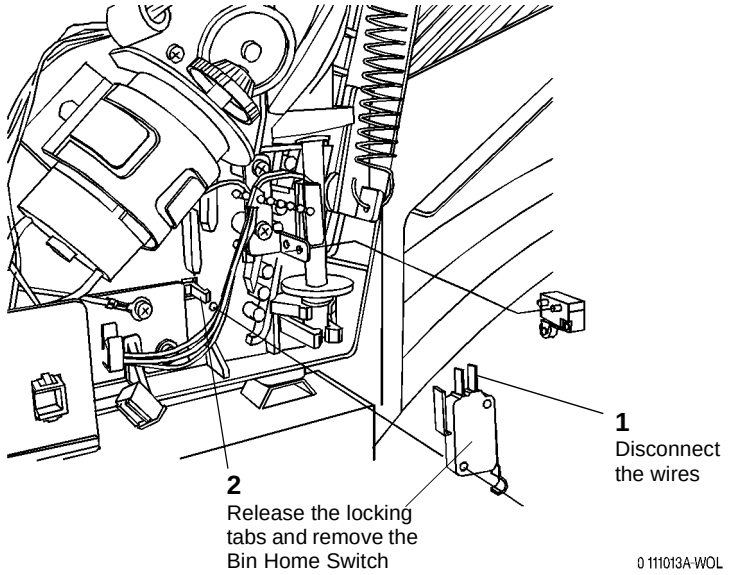



**Figure 1 Removing the Bin Home Switch**

## Replacement

1. Perform the procedure for removal in reverse.

# REP 11.14 Bin Tray(s)

## Parts List on PL 19.5

## Removal

### WARNING

**To avoid personal injury or shock, do not perform repair activities with the power switch on or electrical power applied to the machine.**

1. Switch off the machine power and disconnect the machine Power Cord.
2. Remove the Front Cover.
3. Disconnect the Front Bin Cam Spring.
4. Disengage the bottom of the Front Bin Cam from its retaining clip.
5. Remove the Bin Tray (Figure 1).

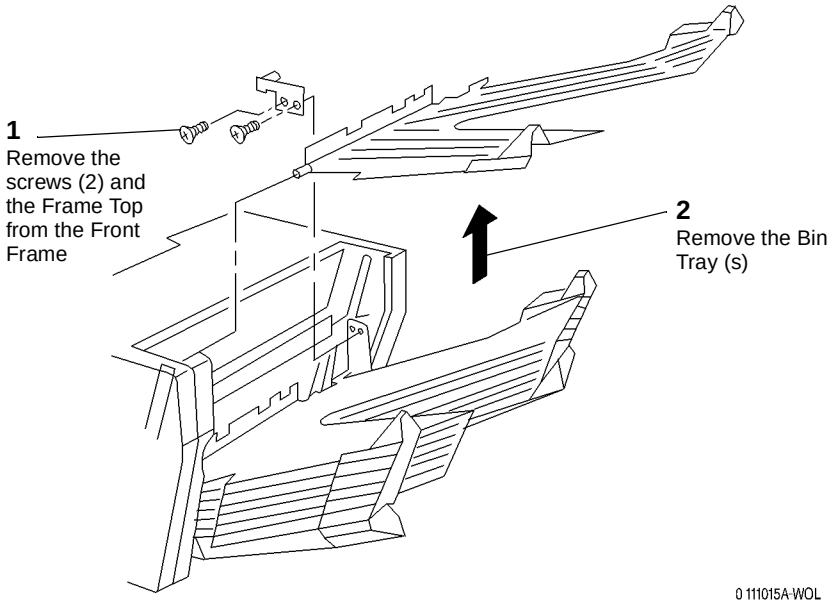



**Figure 1 Removing the Bin Trays**

## Replacement

1. Perform the procedure for removal in reverse.
2. Perform a Sorter Bin Cam Position Adjustment (ADJ 11.1) on the Front Bin Cam.

# REP 11.15 Docking Interlock

## Parts List on PL 19.6

## Removal

### WARNING

**To avoid personal injury or shock, do not perform repair activities with the power switch on or electrical power applied to the machine.**

1. Switch off the machine power and disconnect the machine Power Cord.
2. Remove the Docking Interlock (Figure 1).

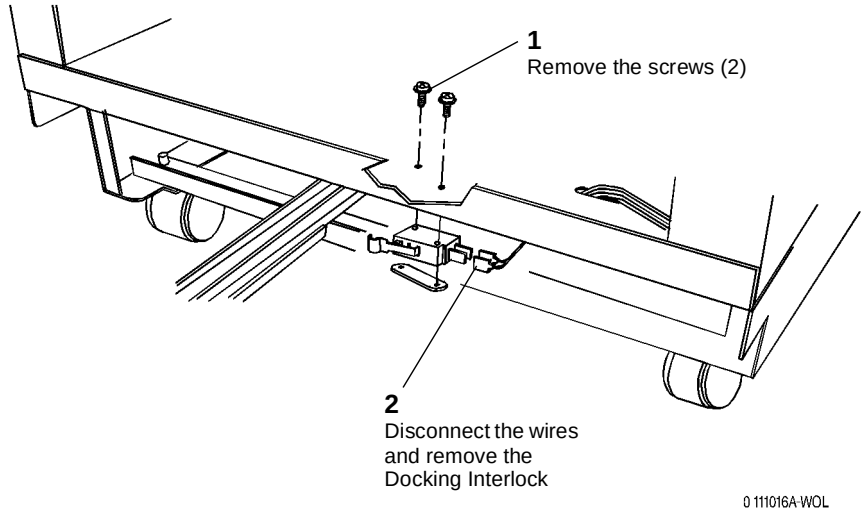



**Figure 1 Removing the Docking Interlock**

## Replacement

1. Perform the procedure for removal in reverse.

# REP 14.1 Front Cover Assembly

## Parts List on PL 1.1

## Removal

**WARNING**

**To avoid personal injury or shock, do not perform repair activities with the power switch on or electrical power applied to the machine.**

1. Switch off the machine power and disconnect the machine Power Cord.
2. Open the Tray 1 Assembly.
3. Remove the Front Cover Assembly (Figure 1).

## Replacement

1. Reinstall the Front Cover Assembly in the reverse order of removal.

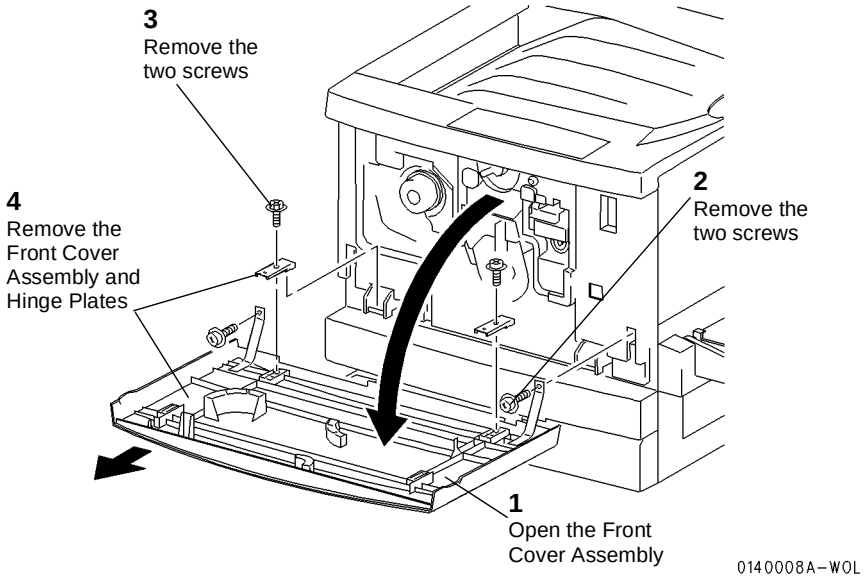



**Figure 1 Removing the Front Cover Assembly**

# REP 14.2 Front Mid Cover

## Parts List on PL 1.1

## Removal

**WARNING**

**To avoid personal injury or shock, do not perform repair activities with the power switch on or electrical power applied to the machine.**

1. Switch off the machine power and disconnect the machine Power Cord.
2. Remove the Front Mid Cover (Figure 1).

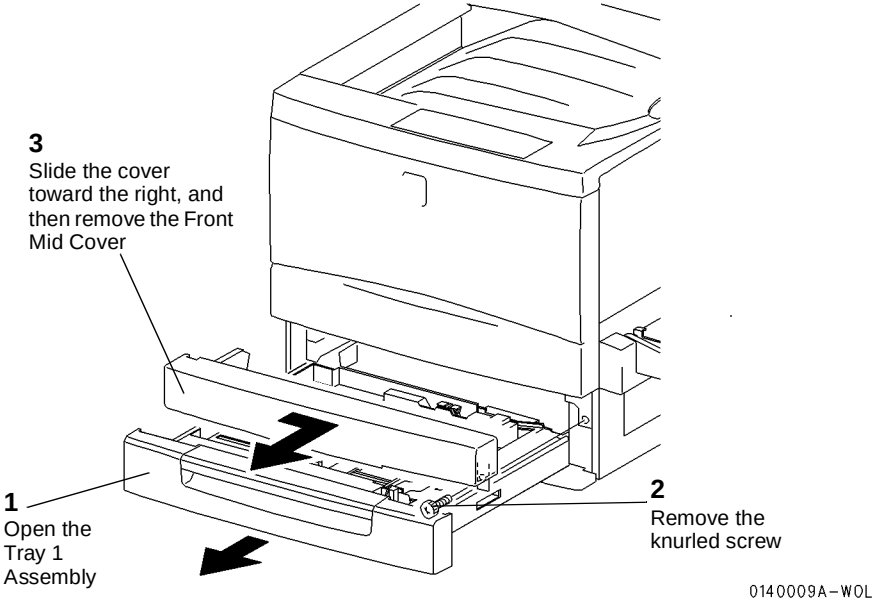



**Figure 1 Removing the Front Mid Cover**

# REP 14.3 Front Lower Cover

## Parts List on PL 1.1

## Removal

### WARNING

**To avoid personal injury or shock, do not perform repair activities with the power switch on or electrical power applied to the machine.**

1. Switch off the machine power and disconnect the machine Power Cord.
2. Open the Tray 1 Assembly.
3. Remove the Front Lower Cover (Figure 1).

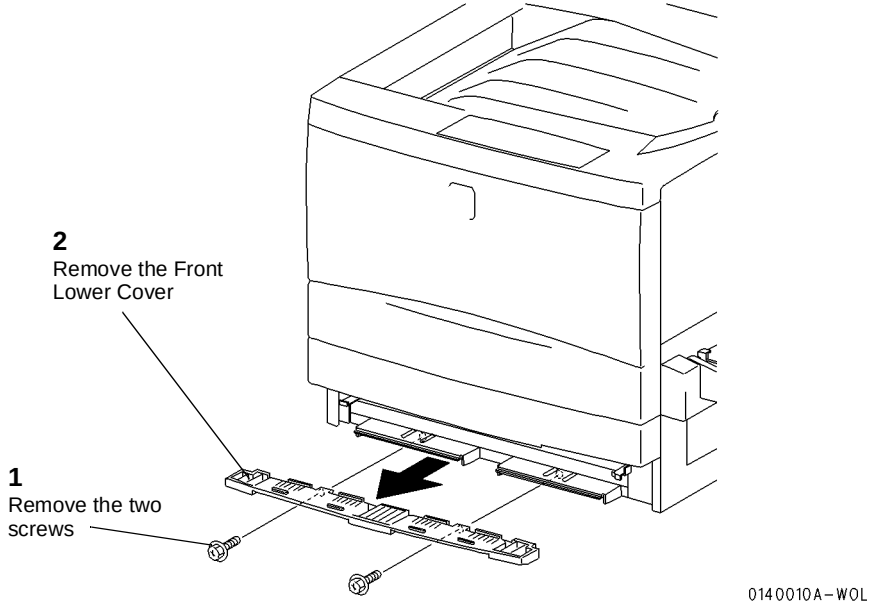



**Figure 1 Removing the Front Lower Cover**

## Replacement

1. Insert the four hooks in the places provided on the frame (Figure 2).
2. Reinstall the Front Lower Cover in the reverse order of removal.

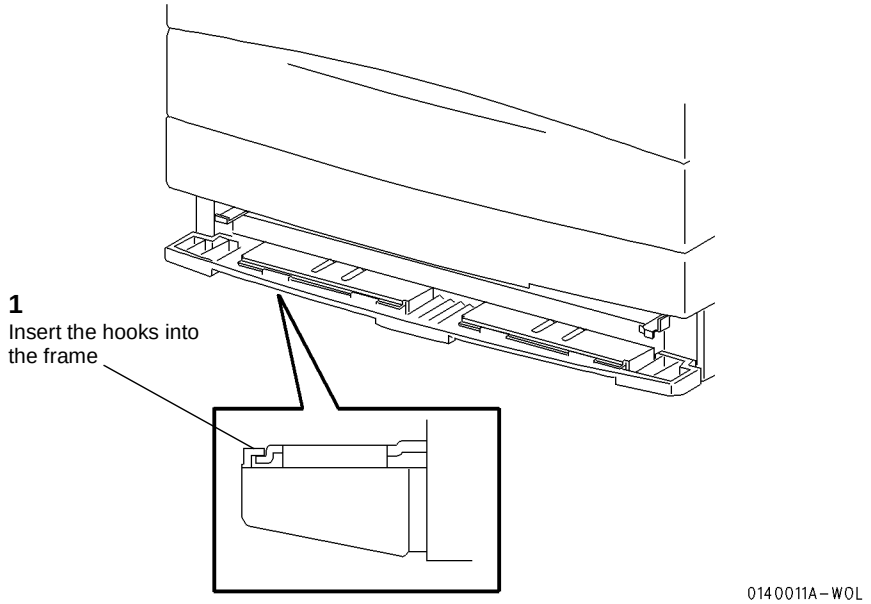



**Figure 2 Inserting the Hooks**

# REP 14.4 Top Cover Assembly

## Parts List on PL 1.2

## Removal

### WARNING

**To avoid personal injury or shock, do not perform repair activities with the power switch on or electrical power applied to the machine.**

1. Switch off the machine power and disconnect the machine Power Cord.

**CAUTION**

*Do not perform step 3 in the art if the machine is not equipped with a full stack detection function.*

*The Top Cover Assembly and printer are connected by a harness. Be careful not to pull too far apart when performing the following.*

2. Remove the Top Cover Assembly (Figure 1).

## Replacement

1. Reinstall the Top Cover Assembly in the reverse order of removal.
2. The two screws at the rear are also used to secure the Rear Cover Assembly. Be sure to press the Top Cover Assembly down and securely tighten the left screw in order to ensure that the Top Cover Switch is actuated correctly.

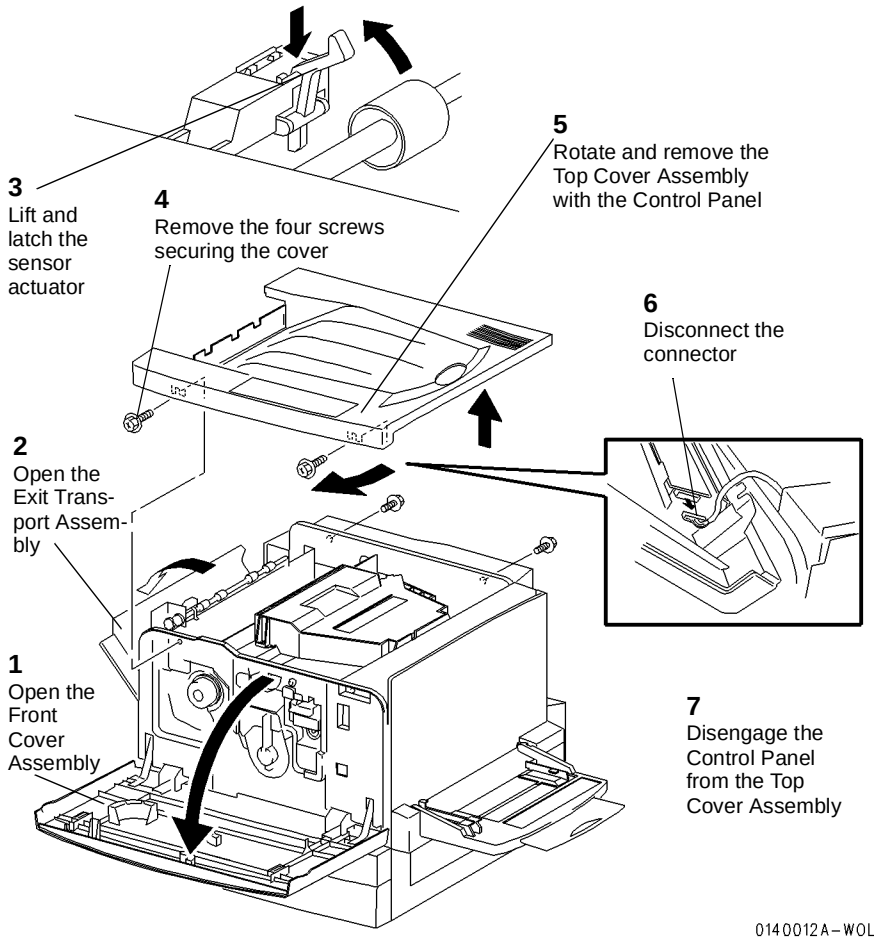



**Figure 1 Removing the Top Cover Assembly**

# REP 14.5 Inner Covers

## Parts List on PL 1.1

## Removal

### WARNING

**To avoid personal injury or shock, do not perform repair activities with the power switch on or electrical power applied to the machine.**

1. Switch off the machine power and disconnect the machine Power Cord.
2. Open the Tray 1 Assembly.
3. Remove the Top Cover Assembly (REP 14.4).
4. Remove the Copy / Print Cartridge (REP 9.1).
5. Remove the Tension Lever (REP 9.15).

**CAUTION**

*When the inner covers are removed, the Front Cover Assembly is supported by the left and right hinges (2) only. Be careful not to place a load on the Front Cover Assembly.*

6. Remove the IBT Inner Cover (Figure 1).

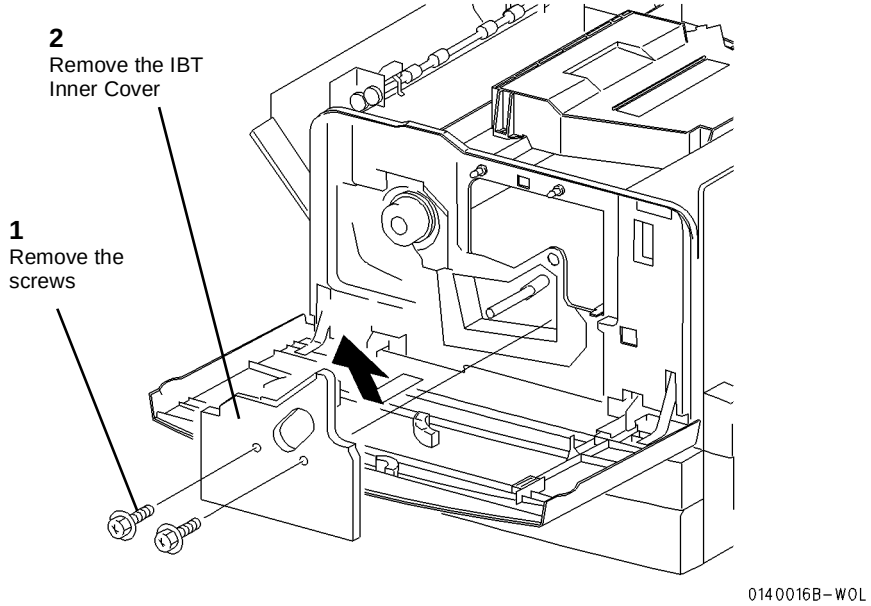



**Figure 1 Removing the IBT Inner Cover**

7. Remove the Left Inner Cover Assembly (Figure 2).

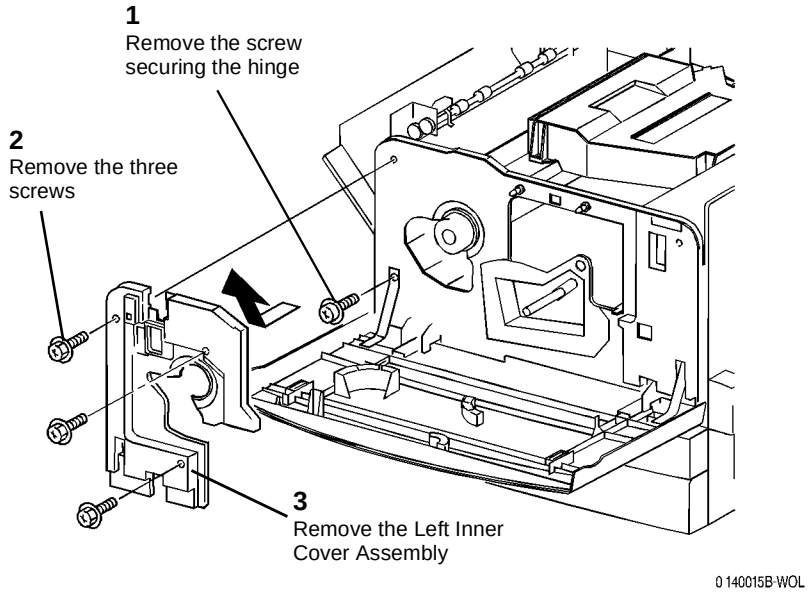



**Figure 2 Removing the Left Inner Cover Assembly**

8. Remove the Right Inner Cover (Figure 3).

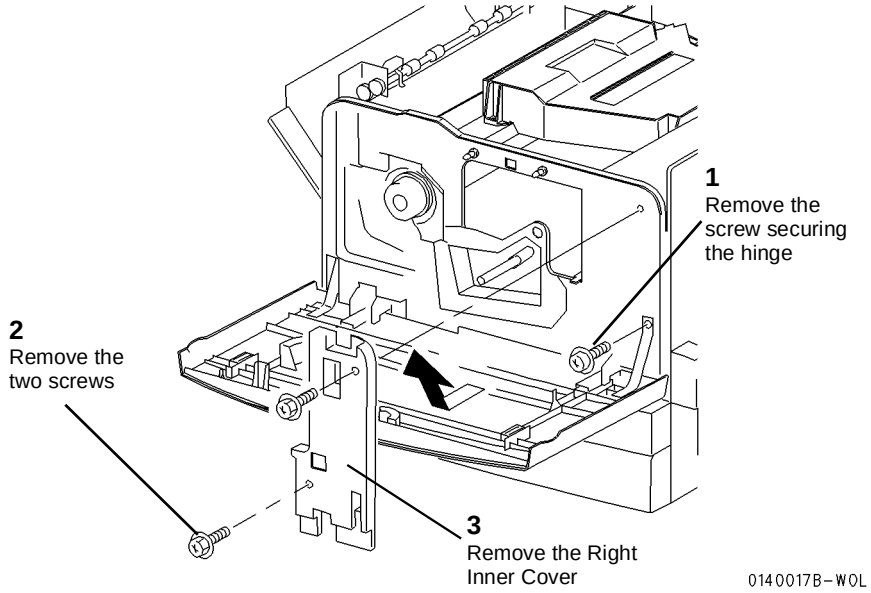



**Figure 3 Removing the Right Inner Cover**

## Replacement

1. Reinstall the Inner Covers in the reverse order of removal.

# REP 14.6 Rear Cover

## Parts List on PL 1.2

## Removal

### WARNING

**To avoid personal injury or shock, do not perform repair activities with the power switch on or electrical power applied to the machine.**

1. Switch off the machine power and disconnect the machine Power Cord.
2. Open the Exit Transport Assembly.
3. Remove the Rear Cover (Figure 1).

## Replacement

### CAUTION

*Be careful not to pinch the harness when reinstalling the Rear Cover.*

1. Reinstall the Rear Cover in the reverse order of removal.
2. The two screws at the top are also used to secure the Top Cover Assembly. Be sure to press the Top Cover Assembly down and securely tighten the left screw in order to ensure that the Top Cover Switch is actuated correctly.

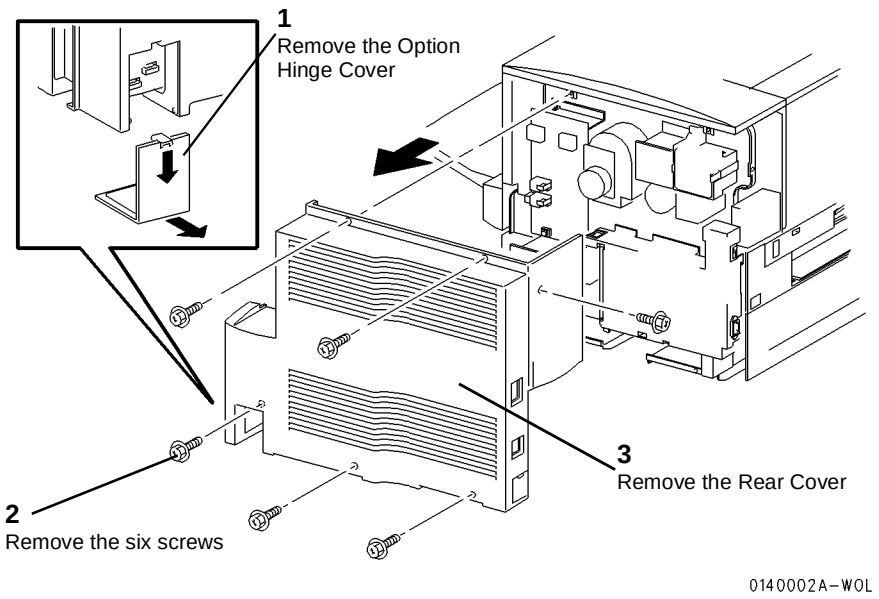



**Figure 1 Removing the Rear Cover**

# REP 14.7 Filter

## Parts List on PL 1.2

## Removal

### WARNING

**To avoid personal injury or shock, do not perform repair activities with the power switch on or electrical power applied to the machine.**

1. Switch off the machine power and disconnect the machine Power Cord.
2. Remove the Filter (Figure 1).

## Replacement

1. Reinstall the Filter in the reverse order of removal.

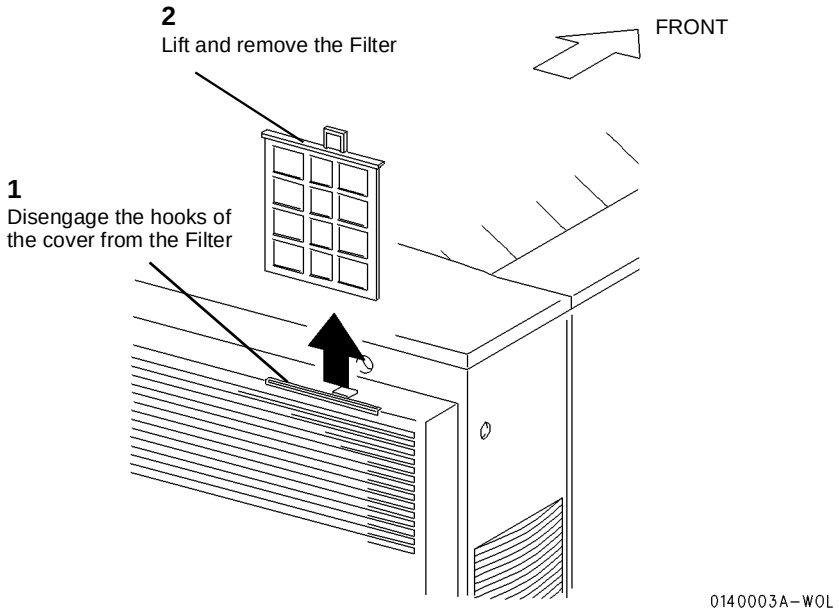



**Figure 1 Removing the Filter**

# REP 14.8 Left Lower Cover

## Parts List on PL 1.1

## Removal

### WARNING

**To avoid personal injury or shock, do not perform repair activities with the power switch on or electrical power applied to the machine.**

1. Switch off the machine power and disconnect the machine Power Cord.
2. Remove the Tray 1 Assembly (REP 7.6).
3. Remove the Front Lower Cover (REP 14.3).
4. Remove the Rear Cover (REP 14.6).
5. Remove the Left Lower Cover (Figure 1).

## Replacement

1. Reinstall the Left Lower Cover in the reverse order of removal.

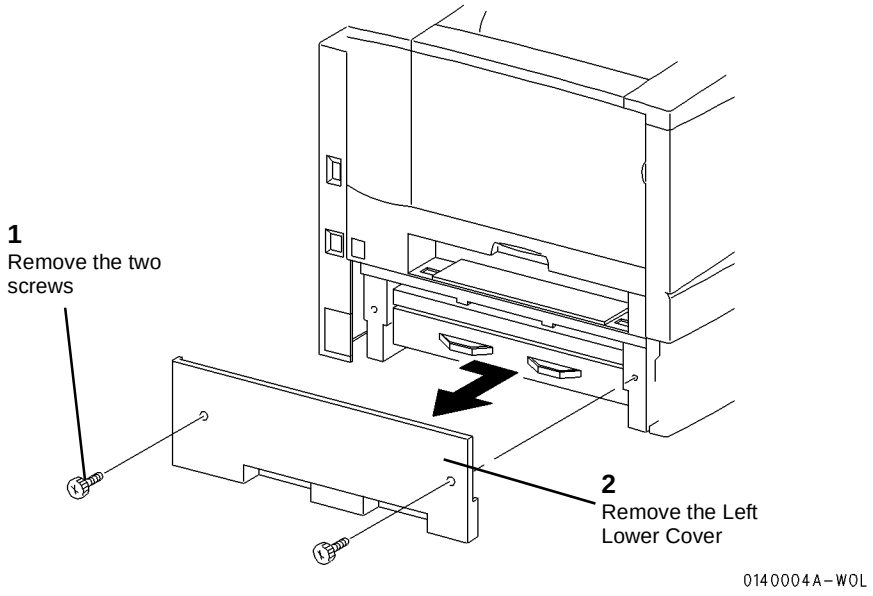



**Figure 1 Removing the Left Lower Cover**

# REP 14.9 Right Cover

## Parts List on PL 1.2

## Removal

**WARNING**

**To avoid personal injury or shock, do not perform repair activities with the power switch on or electrical power applied to the machine.**

1. Switch off the machine power and disconnect the machine Power Cord.
2. Open the Front Cover Assembly.
3. Remove the Right Cover (Figure 1).

## Replacement

1. Align the hooks of the Right Cover with the holes on the back of the printer.
2. Reinstall the Right Cover in the reverse order of removal.

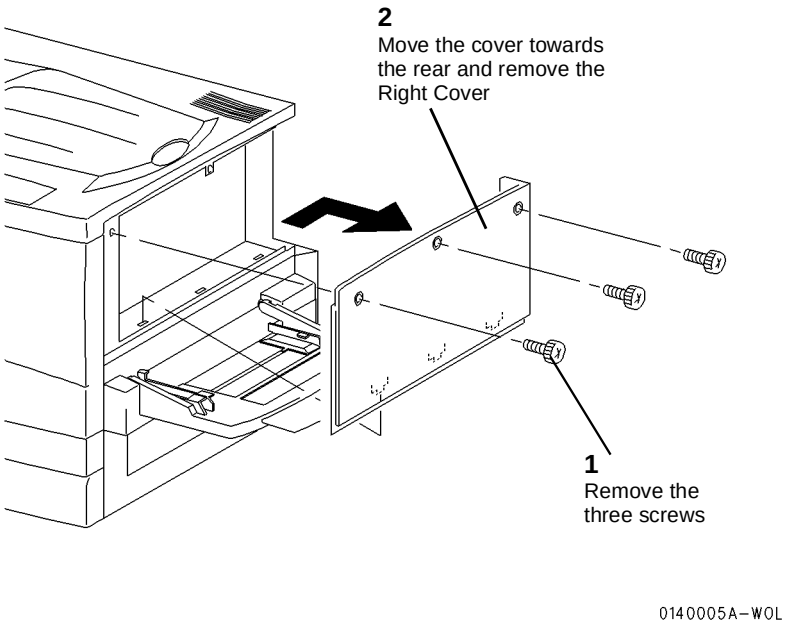



**Figure 1 Removing the Right Cover**

# REP 14.10 Control Panel

## Parts List on PL 1.2

## Removal

**WARNING**

**To avoid personal injury or shock, do not perform repair activities with the power switch on or electrical power applied to the machine.**

1. Switch off the machine power and disconnect the machine Power Cord.
2. Remove the Top Cover Assembly together with the Control Panel (REP 14.4).

**CAUTION**

*Be careful not to damage the hooks of the Control Panel during the removal.*

3. Remove the Control Panel (Figure 1).

## Replacement

1. Reinstall the Control Panel in the reverse order of removal.

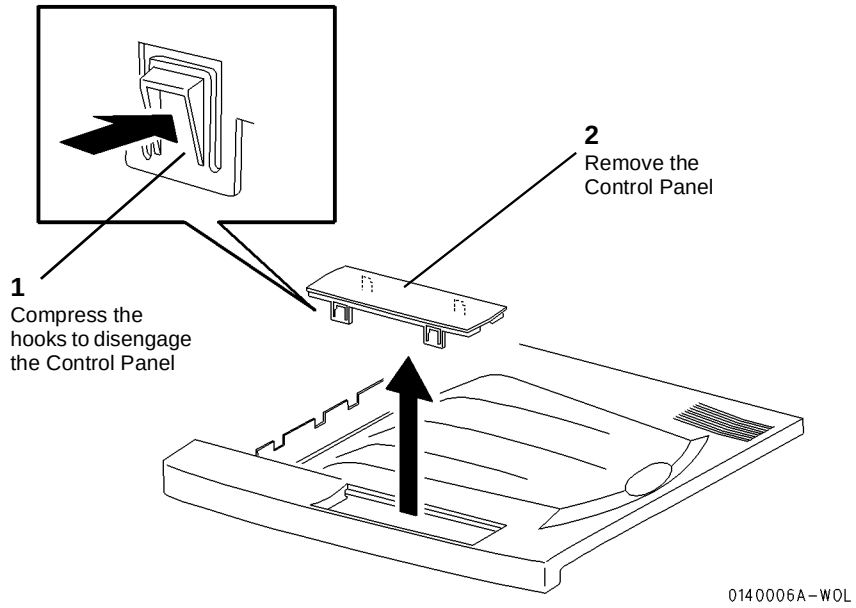



**Figure 1 Removing the Control Panel**

# REP 14.11 Right Lower Cover

## Parts List on PL 1.2

## Removal

**WARNING**

**To avoid personal injury or shock, do not perform repair activities with the power switch on or electrical power applied to the machine.**

1. Switch off the machine power and disconnect the machine Power Cord.
2. Remove the Right Lower Cover (Figure 1).

## Replacement

1. Reinstall the Right Lower Cover in the reverse order of removal.

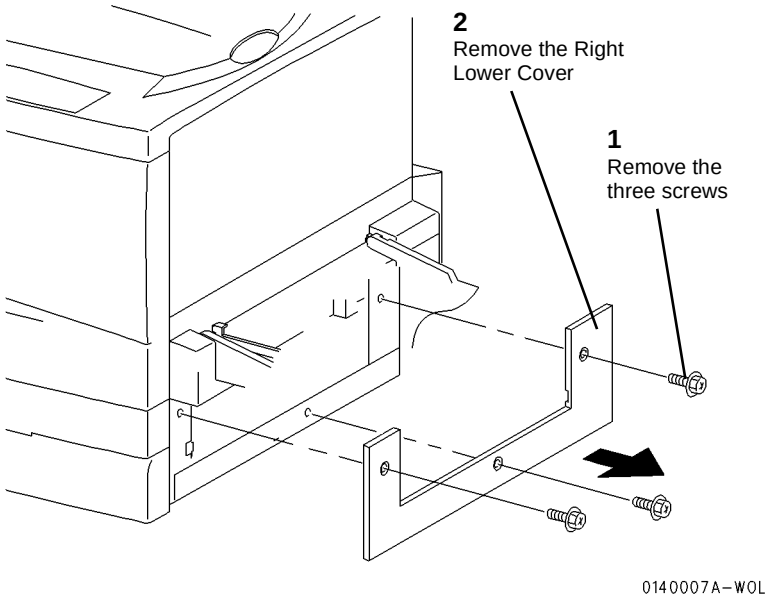



**Figure 1 Removing the Right Lower Cover**

## ADJ 3.1 Hard Disk Drive Assembly

### Purpose

The purpose is to reload the software for correct machine operation after replacing the HDD.

### Adjustment

1. Reload the ESS software **System.sys** located on your EPSS CD using the directions in GP 9, ESS Software Installation (IOT).

## ADJ 3.2 ESS PWB Initialization

### Purpose

The purpose is to initialize the ESS PWB for the correct market.

### Adjustment

1. Switch off the machine power.
2. Remove the Right Cover (REP 14.9).
3. If the machine is equipped with a Scanner, remove the 1394 PWB (PL 12.1).
4. Jumper the two pins of J 8 on the ESS PWB.
5. Switch on the machine power.
6. Enter the Diagnostic Mode (IOT) (GP 1), the display will indicate **VERSION INFO** indicating that the system is ready.
7. Press the **Menu** button until **CHANGE DEFAULT LOCALE** is displayed.
8. Press the **Item Enter** button. Press the Up or Down Arrow buttons to scroll through the following market selection menu:
   - **UNITEDSTATES**
   - **EUROPE**
   - **JAPAN**
   - **UNKNOWN**
   - **UNITEDSTATES2**
   - **EUROPE2**
   - **JAPAN2**
9. Press the **Item Enter** button when the appropriate market is displayed.
10. Exit the Diagnostic Mode (IOT) (GP 1).
11. Switch off the machine power.
12. Remove the jumper from J 8 on the ESS PWB.
13. If necessary, reinstall the 1394 PWB (PL 12.1).
14. Reinstall the Right Cover (REP 14.9).

# ADJ 5.1 ADF Side Registration

## Purpose

The purpose is to adjust the front/rear positioning of documents fed from the ADF onto the Platen Glass and to check the positioning of images relative to paper.

***NOTE:*** *Verify that the Printer Registration Adjustment (ADJ 8.1) on the IOT is within specification before performing this adjustment.*

## Check

1. Using the Copier Setup Test Pattern 82E8220, make two 11x17 (A3) copies with the machine Color Mode set to Black, magnification set to 100%, and in Platen Mode.
2. Using the second sample copy from step 1 as the document, make a copy from the ADF.
3. Check the copy. Verify that the distance from the side edge to the top of Step 3 on the SE2 and SE3 scales is 10.0mm ± 3. (Figure 1)

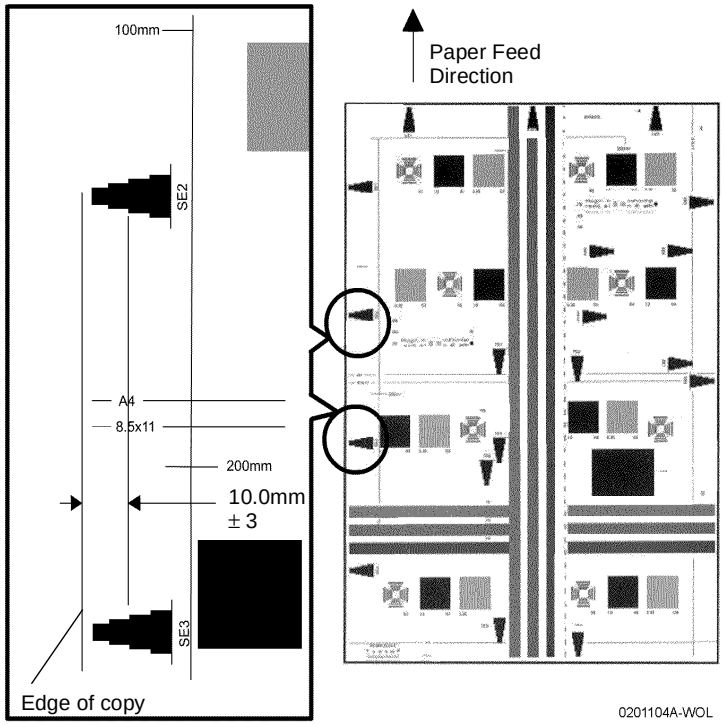



**Figure 1 ADF Side Registration Check**

## Adjustment

1. Adjust by moving the Entrance Tray Assembly to either the front or the rear, as needed. (Figure 2)
   a. If the results are less than nominal, move the tray toward the front.
   b. If the results are greater than nominal, move the tray toward the rear.

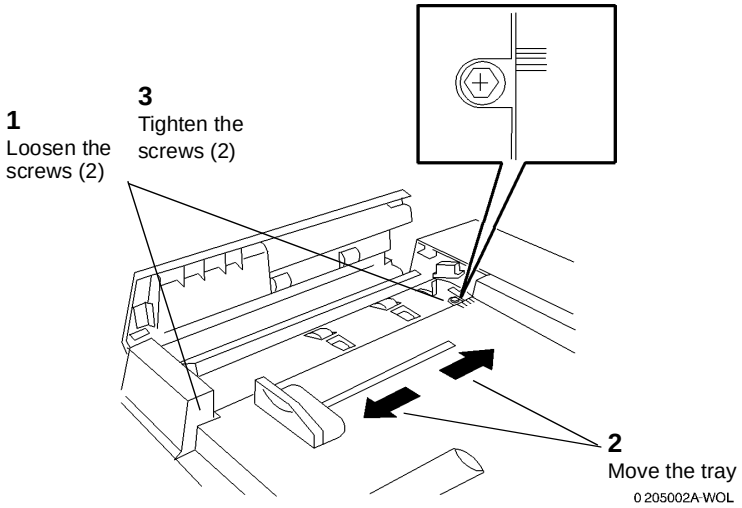



**Figure 2 Adjusting Side Registration**

2. Perform the check again, and repeat the adjustment as required.
3. Perform a fine adjustment as follows:
   a. Enter Diagnostic Mode (IIT) (GP 19).
   b. Enter **Systemdata R/W** and press the **Select** button.
   c. Enter Chain 715 and Link 7 and confirm the present values.
4. Change the values as required, based on the measurement results. When the measurement is greater than nominal, reduce the value; when the measurement is less than nominal, increase the value. Change the values as follows:

***NOTE:*** *To enter a letter hexadecimal value, press the asterisk key prior to entering each letter value, then press the appropriate numerical key as follows: A=1, B=2, C=3, D=4, E=5, F=6*

   a. Enter the new value and press **Start**.
   b. Press the **Select** button to verify the value has changed.

**Table 1**

| | Minimum | Initial | Maximum | Remarks |
|---|---|---|---|---|
| Settings Range | 0 | 47h | FFh | 0.04mm/Step |

5. Perform the check again.

# ADJ 5.2 ADF Lead Edge Registration

## Purpose

The purpose is to set the Lead Edge of the document so it stops correctly in relation to the Registration Guide.

***NOTE:*** *Verify that the Printer Registration Adjustment (ADJ 8.1) on the IOT is within specification before performing this adjustment.*

## Check

1. Using the Copier Setup Test Pattern 82E8220, make two 11x17 (A3) copies with the machine Color Mode set to Black, 100% magnification, and Platen Mode.
2. Using the second sample copy from step 1 as the document, make a copy from the ADF.
3. Check the copy. Verify that the distance from the lead edge to the top of Step 3 on the LE2 scale is 10.0mm ± 2.5 (Figure 1)

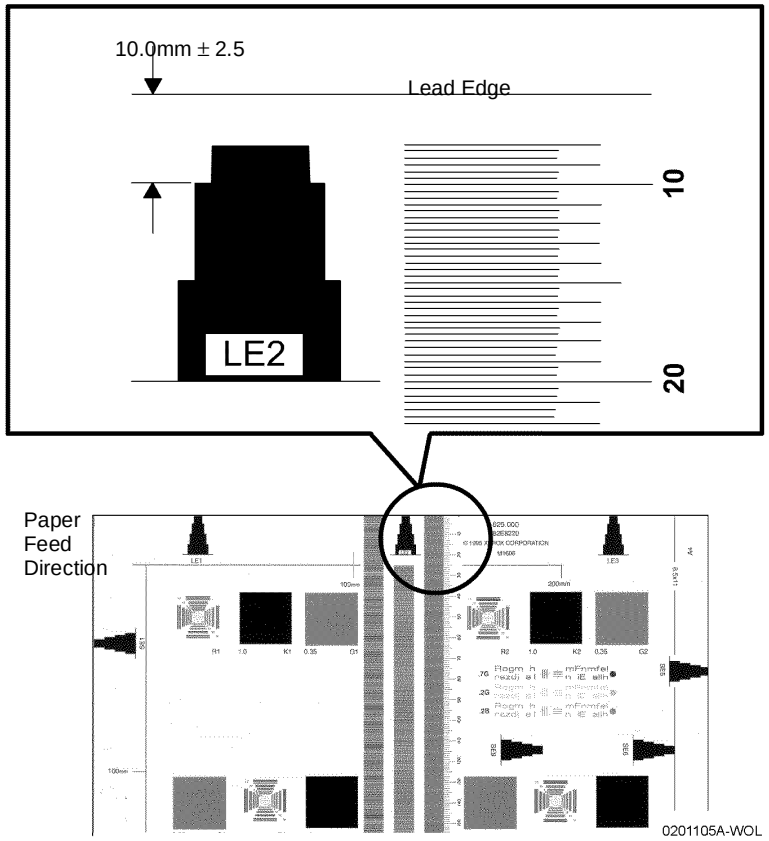



**Figure 1 Test Pattern Orientation**

## Adjustment

1. Enter Diagnostic Mode (IIT) (GP 19).
2. Enter Systemdata R/W and press the **Select** button.
3. Enter Chain 715 and Link 6 and confirm the present values.
4. Change the values as required, based on the measurement results. If Under Registration occurs, decrease the value. If Over Registration occurs, increase the value. Change the values as follows:

***NOTE:*** *To enter a letter Hexadecimal value, press the asterisk key prior to entering each letter value, then press the appropriate numerical key as follows: A=1, B=2, C=3, D=4, E=5, F=6*

   a. Enter the new value and press **Start**.
   b. Press the **Select** button to verify the value has changed.

**Table 1**

| | Minimum | Initial | Maximum | Remarks |
|---|---|---|---|---|
| Settings Value | 0 | 6Eh | C2h | 0.16mm/Step |

5. Perform the check again.

# ADJ 5.3 ADF Height

## Purpose

The purpose is to adjust the height of the Counterbalance and ensure reliable ADF Document Feed.

***NOTE:*** *This procedure gives instructions for adjusting the left-side Counterbalance. However, the same procedure applies to the Counterbalance on the right side.*

**CAUTION**

*An excessive ADF gap can cause problems with document skew and document jams. Insufficient ADF gap can cause imperfect rotation of the Drive Motor when under a load.*

## Check

**WARNING**

**To avoid personal injury or shock, do not perform repair or adjustment activities with the power switch on or electrical power applied to the machine.**

1. Switch off the machine power and disconnect the machine Power Cord.
2. Using shim-stock, create a 1.4mm shim to use as a thickness gauge.
3. Remove the ADF Rear Cover.
4. Set the Shim in the positions indicated in Figure 1 and close the ADF.
5. Verify that the gap between the Side Guide of the Platen Glass and the frame of the Transport Assembly is 1.4±0.2mm. (Figure 1)

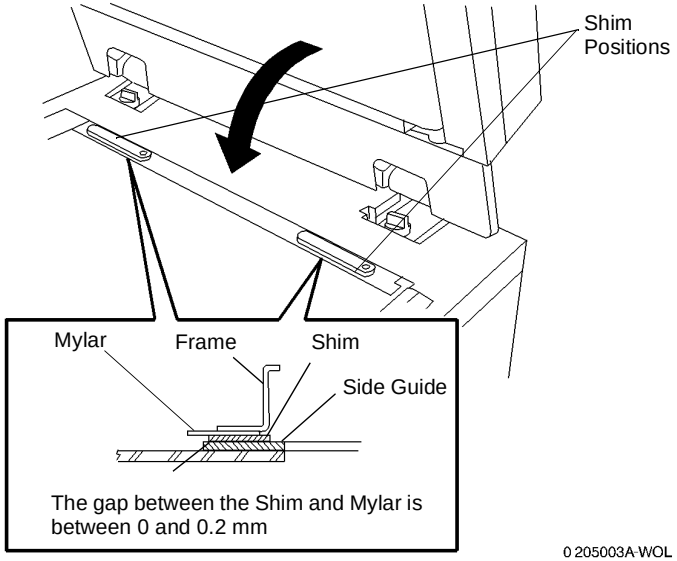



**Figure 1 Verifying the Side Guide Gap**

6. If the gap is incorrect, perform an adjustment.

## Adjustment

**CAUTION**

*Be sure to loosen the screws on both the left and right-side Counterbalances. The ADF Frame will warp if attempting to make the adjustment with the Counterbalance screws only loosened on one side.*

1. Open the ADF and loosen the Counterbalance screws in two places each side. (Figure 2)

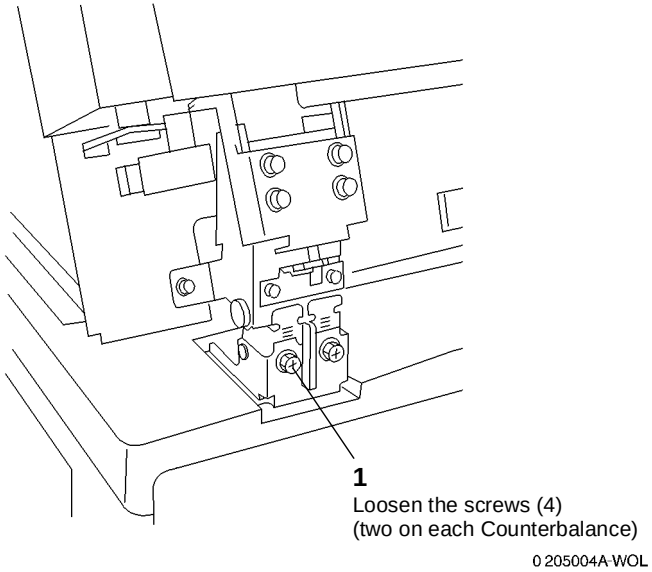



**Figure 2 Loosening the Counterbalance**

2. Close the ADF and adjust the gap between the Side Guide and the Transport Assembly Frame using the adjustment screw. (Figure 3)
   a. Move the screw in “A” direction to raise the ADF, move it in the “B” direction to lower the ADF
      - The ADF will raise or lower about 0.75mm with each turn of the adjustment screw.
      - The registration marks on the Counterbalance may be used at the time of adjustment.

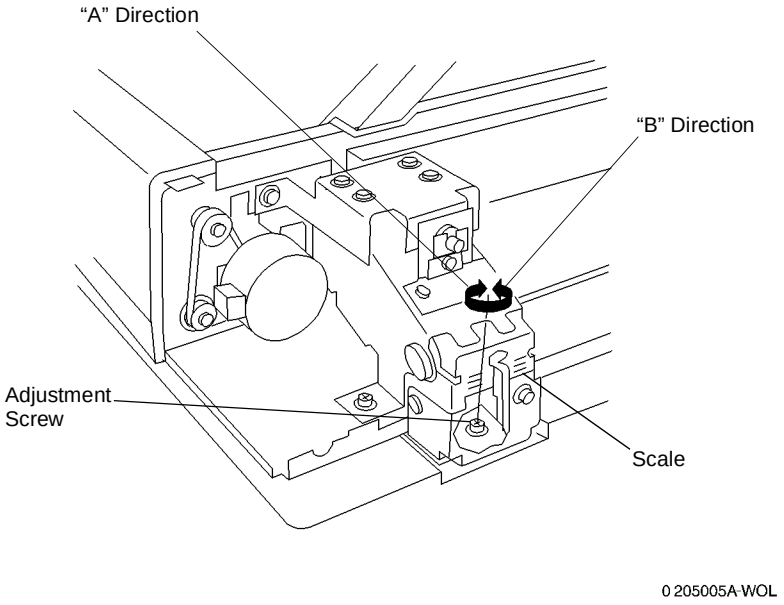



**Figure 3 Adjusting the ADF Height**

**CAUTION**

*If the screws are not tightened sufficiently, the height of the Counterbalance may change, causing document jams.*

3. Open the ADF and tighten the screws loosened in Figure 2.
4. Repeat the checks and make sure the gap is correct.

# ADJ 5.4 ADF Front-to-Rear Positioning

## Purpose

The purpose is to adjust the right-side Counterbalance, make the appropriate front-to-back positioning of the ADF Assembly, and correct skew problems.

## Check

**WARNING**

**To avoid personal injury or shock, do not perform repair or adjustment activities with the power switch on or electrical power applied to the machine.**

1. Switch off the machine power and disconnect the machine Power Cord.
2. Remove the Lower Chute. (Figure 1)

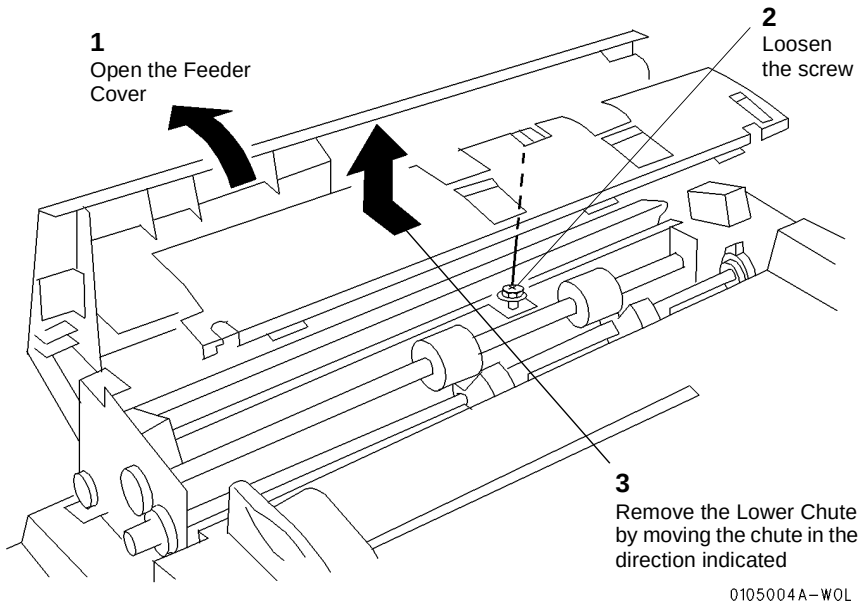



**Figure 1 Removing the Lower Chute**

3. Remove the Entrance Tray Assembly. (Figure 2)

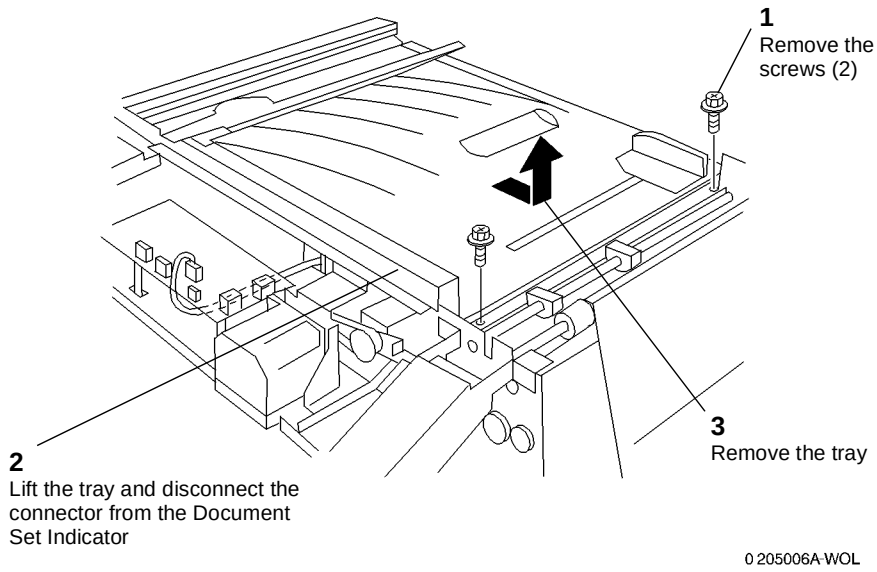



**Figure 2 Removing the Entrance Tray**

4. Remove the Transport Assembly. (REP 5.7)

5. Measure the distance from the ADF Rear Frame to the front end of the Paper Side Guide. (Figure 3)

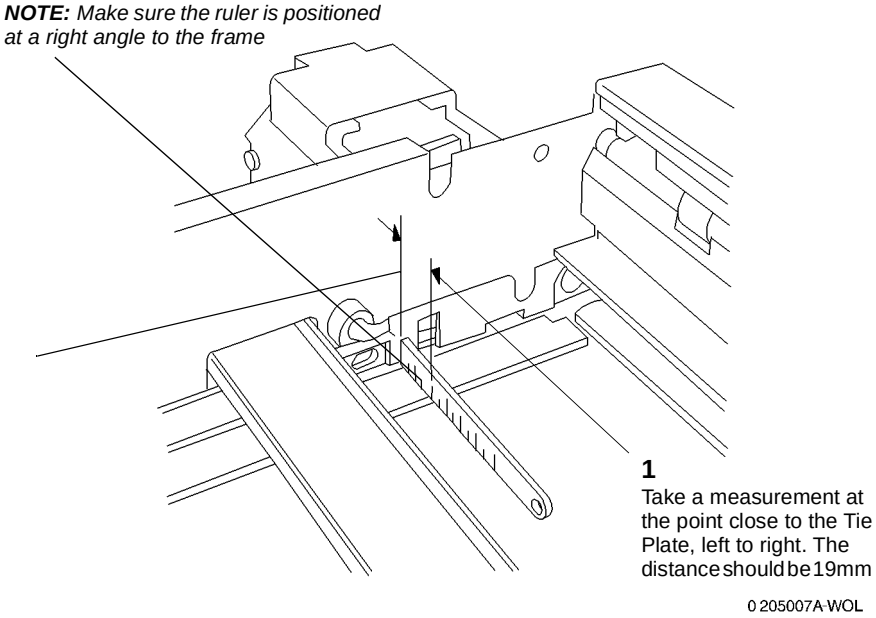

NOTE: Make sure the ruler is positioned at a right angle to the frame
1
Take a measurement at the point close to the Tie Plate, left to right. The distance should be 19mm
0 205007A-WOL

**Figure 3 Taking Measurements**

6. If the measurement is not within specifications perform the adjustment.

## Adjustment

**CAUTION**

*If the screws on both the left and right-side Counterbalances are not loosened, the ADF Frame will warp.*

1. Loosen the screws at 6 places. (Figure 4)
2. Loosen the screws (2) used to mount the bottom of the left-side Counterbalance to the ADF frame.
3. Rotate the adjustment screw on the right-side Counterbalance, to change the ADF positioning. (Figure 4)
   - Direction “A”: ADF moves toward the rear
   - Direction “B”: ADF moves toward the front
4. Tighten the screws in 6 locations, then tighten the two screws on the Left side of the Counterbalance.

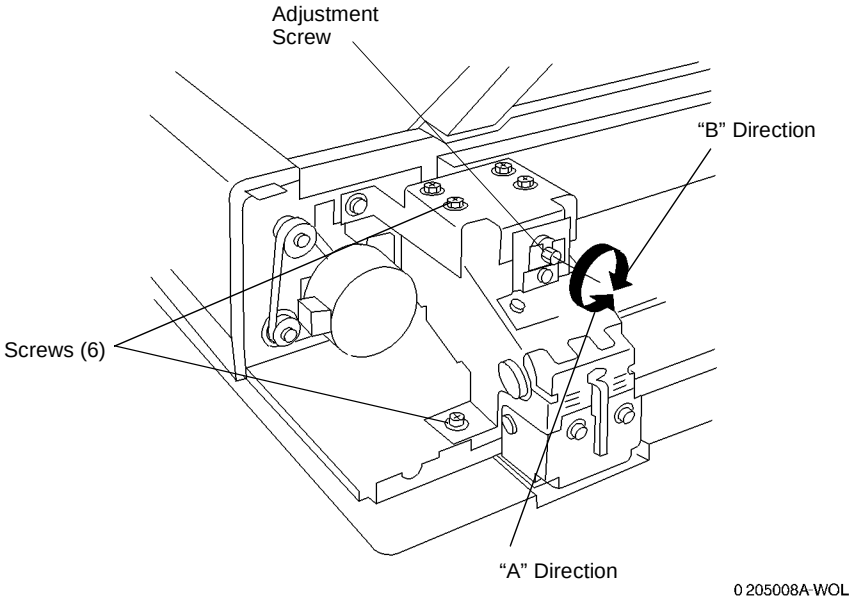



**Figure 4 Adjusting Front-to-back Positioning**

5. Repeat the checks and confirm that the measurement is within specification.
6. Place paper of each size in the ADF, make a test copy and check it for skew.
7. Perform the ADF Side Registration Adjustment. (ADJ 5.1)

# ADJ 6.1 IIT Magnification

## Purpose

The purpose is to achieve the correct magnification in the slow-scan direction (vertical) in 100% copy mode.

The following adjustments must be performed prior to performing this adjustment.

- Printer Registration (ADJ 8.1)
- ADF Side Registration (ADJ 5.1)
- ADF Lead Edge Registration (ADJ 5.2)
- IIT Lead Edge Registration (ADJ 6.3)
- IIT Side Registration (ADJ 6.4)

## Check

1. Using the Copier Setup Test Pattern 82E8220, make two copies with the machine set to Tray 1, 11x17 (A3), and 100% magnification.
2. Using the second copy from step 1, align the scale located at the middle of the copy with the scale at the middle of the test pattern.
3. Verify that the 400mm increment on the copy matches the 400mm increment (±4.0mm) on the test pattern.

## Adjustment

1. Enter Diagnostic Mode (IIT) (GP 19).
2. Highlight **Systemdata R/W** and press the **Select** button.
3. Under **Chain**, enter 715 and then press the down arrow to highlight **Link**. Under **Link**, enter 2. Press the **Select** button to display the **Current dat** values.
4. Change the values as required, based on the measurement results. When the measurement is short, reduce the value; when the measurement is long, increase the value. Change the values as follows:

***NOTE:*** *To enter a letter Hexadecimal value, press the asterisk key prior to entering each letter value, then press the appropriate numerical key as follows: A=1, B=2, C=3, D=4, E=5, F=6*

   a. Enter the new value and press **Start**.
   b. Press the **Select** button to verify the value has changed.

**Table 1**

| | Minimum | Initial | Maximum | Remarks |
|---|---|---|---|---|
| Settings Range | 0 | 23h | 46h | 0.1%/Step |

5. Perform the check again.

# ADJ 6.2 IIT Half-Rate and Full-Rate Carriage Adjustment

## Purpose

The purpose is to maintain the appropriate parallelism in the positioning relationship for the Full-Rate/Half-Rate Carriage.

## Adjustment

**WARNING**

**To avoid personal injury or shock, do not perform repair or adjustment activities with the power switch on or electrical power applied to the machine.**

1. Switch off the machine power and disconnect the machine Power Cord.
2. Remove the ADF (REP 5.1) or Platen Cover.
3. Remove the Platen Glass (REP 6.1).
4. Remove the Right Cover (REP 6.2).
5. Remove the Left Cover (REP 6.3).
6. Remove the Rear Cover (REP 6.4).
7. Remove the Control Panel Assembly (REP 6.23).

***NOTE:*** *Two positioning tools are provided inside the Control Panel Assembly.*

8. Remove the Stopper and the two positioning tools from inside the Control Panel housing. (Figure 1)

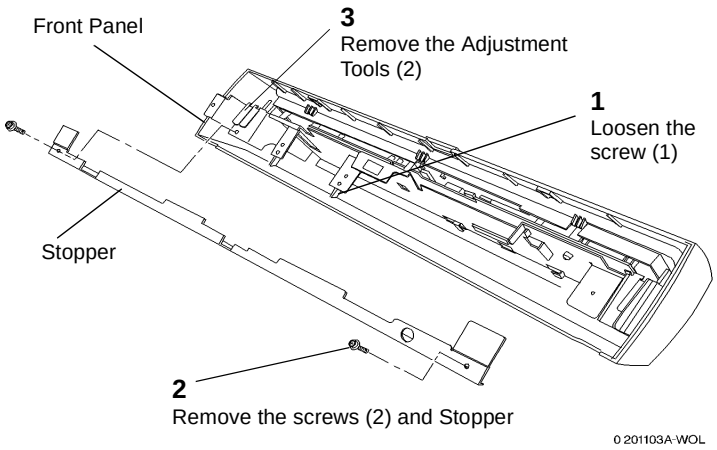



**Figure 1 Positioning Tool Storage Location**

9. Prepare the Full-Rate Carriage for adjustment. (Figure 2)

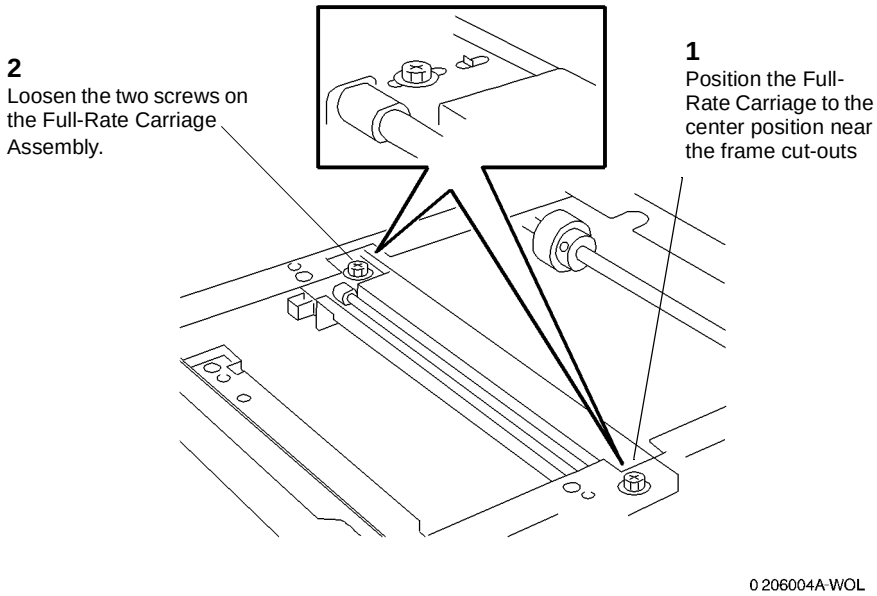

2
Loosen the two screws on the Full-Rate Carriage Assembly.
1
Position the Full-Rate Carriage to the center position near the frame cut-outs
0 206004A-WOL

**Figure 2 Preparing the Full-Rate Carriage for Adjustment**

10. Loosen the set screws (4) on the front and rear Capstan Pulleys. (Figure 3)

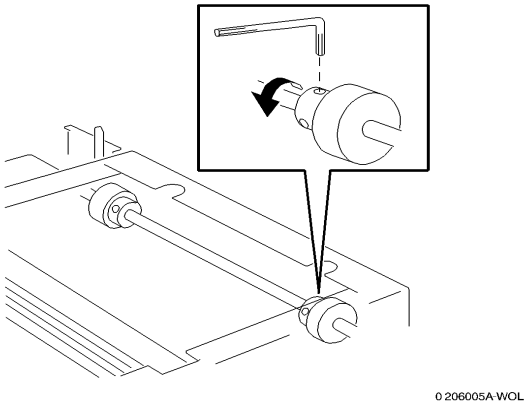



**Figure 3 Capstan Pulley Set Screws**

***NOTE:*** *Use the screws removed from the Stopper in figure 1 to mount the Positioning tools to their respective positions in the IIT.*

11. Install the positioning tools (in front and rear locations) on the Half-Rate Carriage Assembly. (Figure 4)

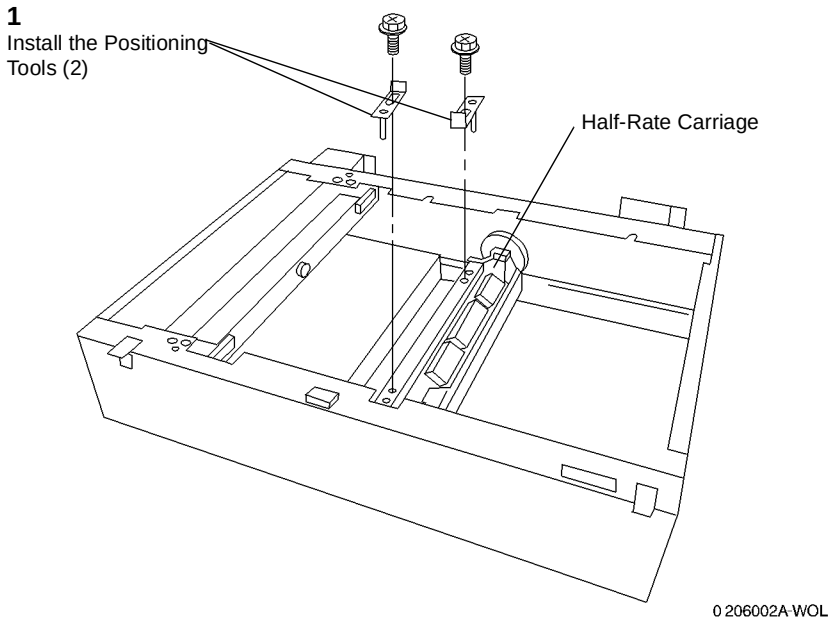



**Figure 4 Installing the Positioning Tools**

12. Tighten the one set screw on the front Capstan Pulley. (Figure 5)

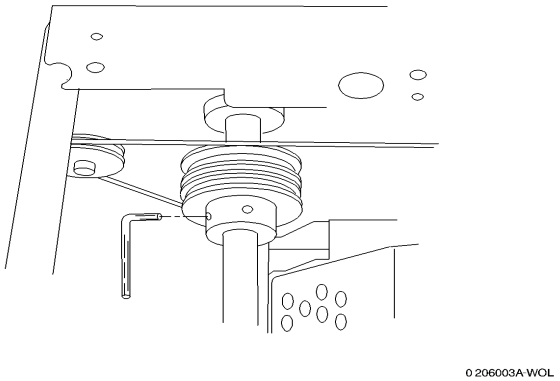



**Figure 5 Tightening the Capstan Set Screw**

13. Use the tools to adjust the front side of the Full-Rate Carriage Assembly. (Figure 6)

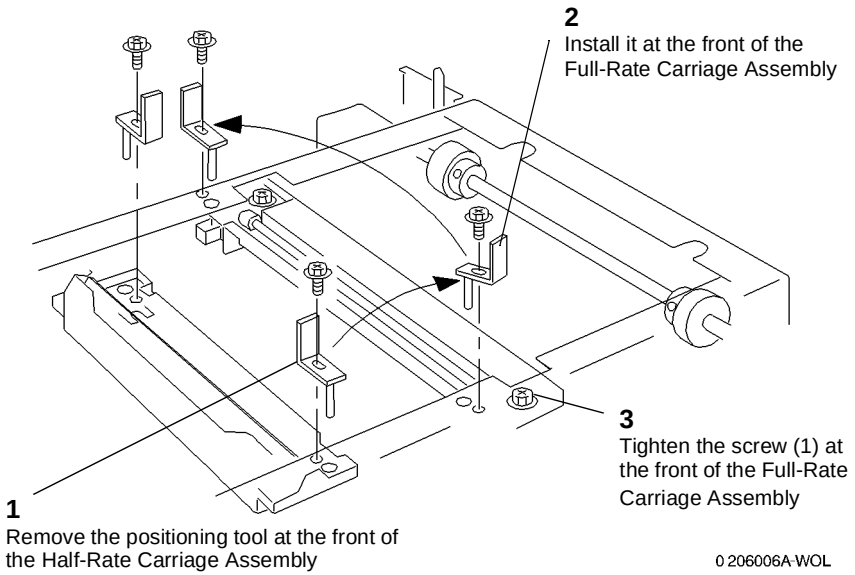

2
Install it at the front of the Full-Rate Carriage Assembly
3
Tighten the screw (1) at the front of the Full-Rate Carriage Assembly
1
Remove the positioning tool at the front of the Half-Rate Carriage Assembly
0 206006A-WOL

**Figure 6 Adjusting the Front Side of the Full-Rate Carriage Assembly**

14. Use the tools to adjust the rear side of the Full-Rate Carriage Assembly. (Figure 7)

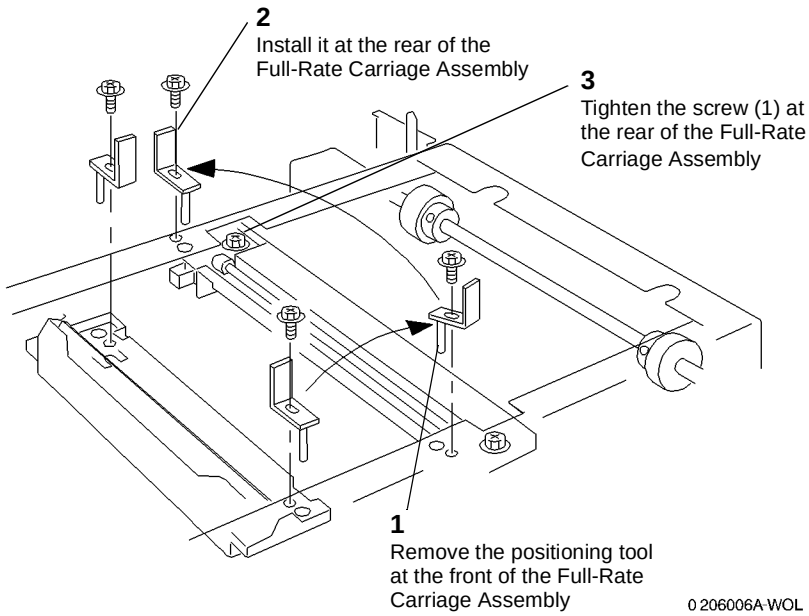

2
Install it at the rear of the Full-Rate Carriage Assembly
3
Tighten the screw (1) at the rear of the Full-Rate Carriage Assembly
1
Remove the positioning tool at the front of the Full-Rate Carriage Assembly
0 206006A-WOL

**Figure 7 Adjusting the Rear Side of the Full-Rate Carriage Assembly**

15. Remove the positioning tools from the assembly and install them to their mounting position inside the Control Panel housing.
16. Tighten the remaining set screws on the front and rear Capstan Pulleys.
17. Reinstall the Control Panel Assembly (REP 6.23).
18. Reinstall the Rear Cover (REP 6.4).
19. Reinstall the Left Cover (REP 6.3).
20. Reinstall the Right Cover. (REP 6.2).
21. Reinstall the Platen Glass (REP 6.1).
22. Reinstall the ADF (REP 5.1) or Platen Cover.

# ADJ 6.3 IIT Lead Edge Registration

## Purpose

The purpose is to achieve the proper home position in the IIT lead edge (slow scan) direction.

IIT lead edge registration affects the entire accuracy regarding document size detection and other document positions.

## Check

1. Using the Copier Setup Test Pattern 82E8220, make two copies with the machine set to Tray 1, A3, and 100% magnification.
2. Check the second copy. Verify that the distance from the lead edge of the copy to the indicated point is 10±2.0mm. (Figure 1)

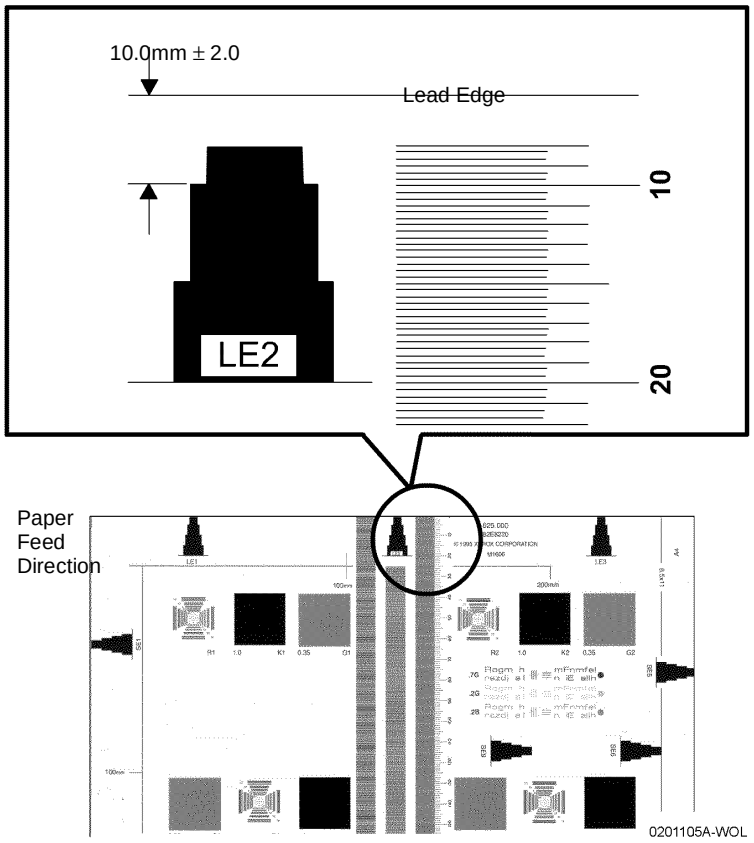



**Figure 1 Test Pattern Indications**

## Adjustment

1. Enter Diagnostic Mode (IIT) (GP 19).
2. Enter **Systemdata R/W** and press the **Select** button.
3. Enter Chain 715 and Link 3 and confirm the present values.
4. Change the values as required, based on the measurement results (Figure 1). When the measurement is short, reduce the value; when the measurement is long, increase the value. Change the values as follows:

***NOTE:*** *To enter a letter Hexadecimal value, press the asterisk key prior to entering each letter value, then press the appropriate numerical key as follows: A=1, B=2, C=3, D=4, E=5, F=6*

   a. Enter the new value and press **Start**.
   b. Press the **Select** button to verify the value has changed.

**Table 1**

| | Minimum | Initial | Maximum | Remarks |
|---|---|---|---|---|
| Settings Range | 1 | 47h | FFh | 0.04mm/Step |

5. Perform the check again.

# ADJ 6.4 IIT Side Registration

## Purpose

The purpose is to achieve the proper home positioning for the IIT side direction (Primary Scanner).

IIT Side Registration enhances the overall precision of document-related size detection accuracy. as well as document positioning

## Check

1. Using the Copier Setup Test Pattern 82E8220, make two copies with the machine set to Tray 1, A3, and 100% magnification.
2. Check the second copy. Verify that the distance from the side edge to the top of Step 3 on the SE2 and SE3 scales is 10.0mm ± 2.5. (Figure 1)

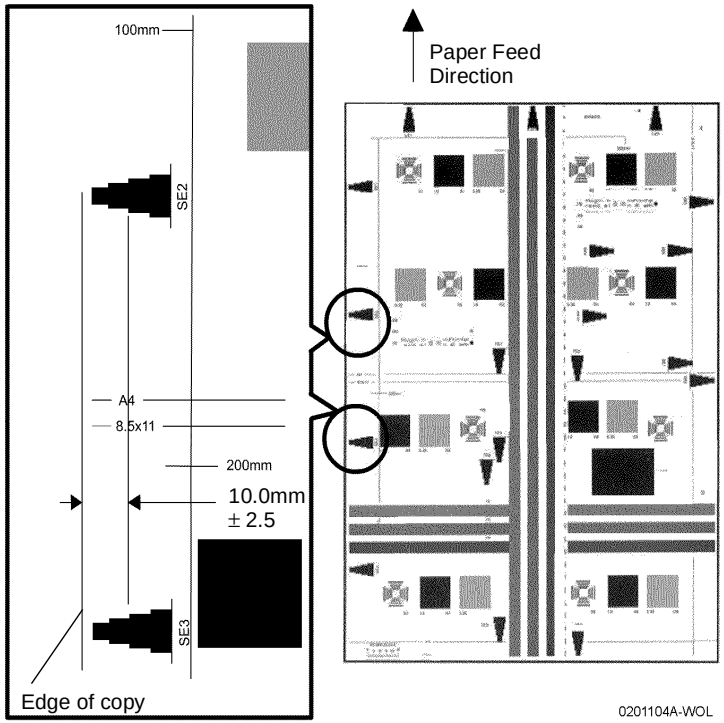



**Figure 1 ADF Side Registration Check**

## Adjustment

1. Enter Diagnostic Mode (IIT) (GP 19).
2. Enter **Systemdata R/W** and press the **Select** button.
3. Enter Chain 715 and Link 3 and confirm the present values.
4. Change the values as required, based on the measurement results (Figure 1). When the measurement is short, reduce the value; when the measurement is long, increase the value. Change the values as follows:

***NOTE:*** *To enter a letter Hexadecimal value, press the asterisk key prior to entering each letter value, then press the appropriate numerical key as follows: A=1, B=2, C=3, D=4, E=5, F=6*

   a. Enter the new value and press **Start**.
   b. Press the **Select** button to verify the value has changed.

**Table 1**

| | Minimum | Initial | Maximum | Remarks |
|---|---|---|---|---|
| Settings Range | 0 | 47h | FFh | 0.04mm/Step |

5. Perform the checks again.

## ADJ 6.5 ICM Main PWB Adjustment

### Purpose

The purpose is to ensure that registration, magnification, and image quality are restored after replacing the ICM Main PWB.

### Adjustment

1. Perform the following adjustments:.
   a. IIT Lead Edge Registration (ADJ 6.3)
   b. IIT Side Registration (ADJ 6.4)
   c. IIT Magnification (ADJ 6.1)
   d. Auto Shading (ADJ 6.6)
   e. B* Correction (ADJ 6.7)
   f. ADF Side Registration (ADJ 5.1)
   g. ADF Lead Edge Registration (ADJ 5.2)

## ADJ 6.6 IIT Auto-Shading

### Purpose

The purpose is to adjust the correction values so the shading correction will function correctly for changes in the spectrum characteristics of a standard white sheet.

This adjustment should be performed whenever the following conditions are true:

- After making changes to the ADF settings
- After replacing the IIT Main PWB
- After replacing the Platen Glass
- When smears or altered sequences are noted with white standard paper
- When problems with fogged or scattered copies occur

### Adjustment

1. Place 11x17 (A3) paper in Tray 1.
2. Completely cover the Platen Glass with at least 10 sheets of white 11x17 (A3) paper and close the cover or ADF.
3. At the Control Panel, select **Original Type.** Use the arrow keys to select **Color** and press the **Select** button.
4. Select **Text/Photo** and press the **Select** button.
5. Press **Start** to make a copy.
6. Enter Diagnostic Mode (IIT) (GP 19).
7. Enter **Diag- Code** and press the **Select** button.
8. Select **DC No** and enter 945.
9. Press the Down Arrow to select **subcode** and enter 20.
10. Press **Select**, then press **Start**.
11. Exit Diagnostics.

# ADJ 6.7 B* Correction

## Purpose

The purpose is to read the color test pattern on the platen glass and correct the sensitivity imbalance of the CCD (Blue) Sensor.

## Adjustment

1. Place 11 x 17 inch (A3) paper in Tray 1.
2. Place Test Pattern 82E13030 on the Platen Glass and close the cover or ADF.
3. At the Control Panel, select **Original Type.** Use the arrow keys to select **Color** and press the **Select** button.
4. Select **Text/Photo** and press the **Select** button.
5. Press **Start** to make a copy.
6. Enter the Diagnostic Mode (IIT) (GP 19).
7. Enter **Diag-Code** and press the **Select** button.
8. Select **DC No** and enter 945.
9. Press the Down Arrow to select **subcode** and enter 10.
10. Press **Select**, then press **Start**.
11. Exit Diagnostics.

# ADJ 8.1 Printer Registration

## Purpose

The purpose is to adjust the side-to-side and top-to-bottom registration of the printer to a nominal value. This procedure should be performed before adjustment of the IIT Scanner Registration.

## Check

1. Load fresh, 11 inch (A4) paper, long edge feed, into paper Tray 1.
2. Using the **Menu** button, scroll to **PRINT PAGES FROM LIST**, and press the **Enter** button.
3. Using the Arrow Up and Arrow Down buttons, select **PRINT MENU HELP**, and then press the **Item Enter** button. A series of pages will be printed. For this adjustment, you will only use the first page.
4. Repeat to create three prints of the first page.
5. Check the side-to-side and top-to-bottom registration (Figure 1).
6. Repeat steps 1-5 for each tray and option tray.
7. Compare the average value calculated to the value displayed in Table 1. If the average calculated value is 2.5 mm greater than or less than the nominal value in the table, perform the adjustment.

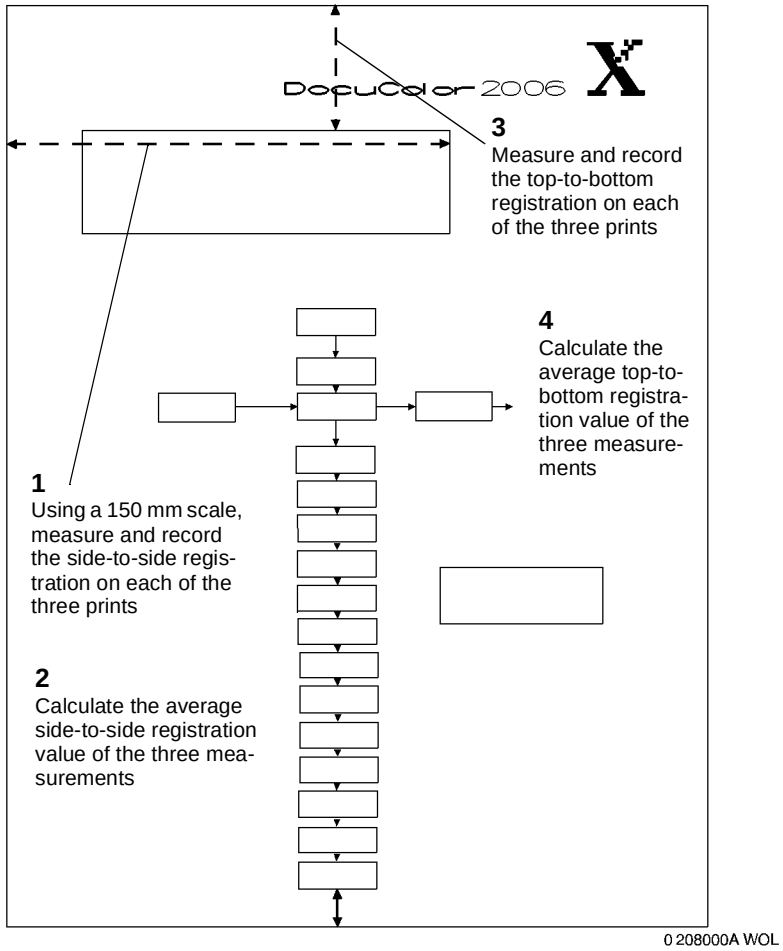

DocuColor 2006
3
Measure and record the top-to-bottom registration on each of the three prints
4
Calculate the average top-to-bottom registration value of the three measurements
1
Using a 150 mm scale, measure and record the side-to-side registration on each of the three prints
2
Calculate the average side-to-side registration value of the three measurements
0 208000A WOL

**Figure 1 Measuring the Side-to-Side and Top-to-Bottom Registration**

**Table 1 Nominal Registration Values for Comparison of Measurements**

| Media Size | Side-to-Side | Top-to-Bottom |
|---|---|---|
| 8.5 x 11 inch | 133 mm | 41 mm |
| A4 | 132 mm | 46.5 mm |

## Adjustment

1. Calculate the difference between the average measured value and the nominal values as displayed in the Table 1.
2. Calculate the required adjustment value, allowing 1 unit increment to equal 0.17 mm of change in top-to-bottom registration, or 0.50 mm of change in side-to-side registration.
3. Prepare to adjust the printer registration.
   a. Enter the Diagnostic Mode (IOT) (GP 1).
   b. Press the **Menu** button until **IOT PARAM SET** is displayed.
   c. Press the **Item Enter** button.
   d. Press the Up Arrow or Down Arrow button until **CTRL VAL SET** is displayed, then press the **Item Enter** button.
   e. Using the Up Arrow and Down Arrow buttons, select the Menu Number from the Table 2.
   f. Press the **Item Enter** button to display the current value of that parameter.
   g. Using the Up Arrow and Down Arrow buttons, change the value as required.
   h. Press the **Item Enter** button to write the new value.
   i. Scroll the menu until **DIAG EXIT** is displayed, then press the **Item Enter** button.
   j. Wait until the message **PLEASE POWER OFF** is displayed and then switch off and switch on the power.
4. Perform the check again.

**Table 2 Printer Registration Items for the Parameters**

| Menu No. | Function | Default Value | Maximum Value | Minimum Value | Unit |
|---|---|---|---|---|---|
| 11 | Side-To-Side Registration | 8 | 28 | 244 (-12)** (Table 3) | 0.50 mm |
| 16 | Top-To-Bottom (Tray 1) | 30 | 64 | 0 | 0.17 mm |
| 17 | Top-To-Bottom (Tray 2) | 37 | 64 | 0 | 0.17 mm |
| 18 | Top-To-Bottom (Tray 3) | 35 | 64 | 0 | 0.17 mm |
| 19 | Top-To-Bottom (Bypass Tray) | 28 | 64 | 0 | 0.17 mm |
| 1A | Top-To-Bottom (Duplex Tray) | 17 | 64 | 0 | 0.17 mm |

**Table 3 Minimum Value Expansion (from Table 2 Menu No. 11)**

| | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Value Entered | 28 | 27 | 26 | 25 | 24 | 23 | 22 | 21 | 20 | 19 | 18 | 17 | 16 | 15 |
| Offset (mm) | +10.0 | +9.5 | +9.0 | +8.5 | +8.0 | +7.5 | +7.0 | +6.5 | +6.0 | +5.5 | +5.0 | +4.5 | +4.0 | +3.5 |
| Value Entered | 14 | 13 | 12 | 11 | 10 | 09 | 08 | 07 | 06 | 05 | 04 | 03 | 02 | 01 |
| Offset (mm) | +3.0 | +2.5 | +2.0 | +1.5 | +1.0 | +0.5 | 0 | -0.5 | -1.0 | -1.5 | -2.0 | -2.5 | -3.0 | -3.5 |
| Value Entered | 00 | 255 (-1) | 254 (-2) | 253 (-3) | 252 (-4) | 251 (-5) | 250 (-6) | 249 (-7) | 248 (-8) | 247 (-9) | 246 (-10) | 245 (-11) | 244 (-12) | |
| Offset (mm) | -4.0 | -4.5 | -5.0 | -5.5 | -6.0 | -6.5 | -7.0 | -7.5 | -8.0 | -8.5 | -9.0 | -9.5 | -10.0 | |

# ADJ 9.1 Developer Spacing

## Purpose

The purpose is to ensure that the Developer Housing is at the correct distance from the Copy/Print Cartridge.

## Check

### WARNING

**To avoid personal injury or shock, do not perform repair activities with the power switch on or electrical power applied to the machine.**

1. Switch off the machine power and disconnect the machine Power Cord.
2. Remove the Top Cover Assembly (REP 14.4).
3. Release the Rotary Latch. Turn the Rotary Frame clockwise until the magnetic roll of the target Developer Housing is at the top. Continue to turn until the Rotary Latch catches in the notch of the Rotary Frame.

**CAUTION**

*Do not touch the surface (surface around circumference) of the white tracking roll with your fingers while performing the following step. If you accidentally touch the surface of the tracking roll with your fingers or if oily substances get on the surface, wipe the roll clean with a clean cloth.*

4. Clean the White Tracking Roll in front of the target Developer Assembly (in front of the Magnetic Roll) with a clean cloth (Figure 1).
5. Make a mark on the White Tracking Roll, at the edge of the White Seal, in front of the target Developer Assembly (in front of the Magnetic Roll).

   If a mark already exists on the White Tracking Roll, rotate the roll to align the mark with the edge of the White Seal (Figure 1).

**CAUTION**

*Turn the Rotary Frame as slowly as possible while performing the following step. Turning the Rotary Frame too fast will produce a discrepancy in the amount of position change, thus making it impossible to get an accurate reading. Visually inspect to make sure the black drum flange and tracking roll touch each other while turning.*

*If you do not raise the lever of the Rotary Latch in the following step, the lever and tracking roll will touch. This will allow the tracking roll to turn and you will not be able to accurately determine the amount of position change.*

***NOTE:** The tracking roll is rotated when the black drum flange and tracking roll touch in the following step of the procedure.*

6. Release the Rotary Latch which prevents the Developer Housing from turning. Turn the Rotary Frame as slowly as possible 360 degrees (clockwise). This will allow you to measure how much the position has changed by how far the mark has moved from the edge of the White Seal.
7. Check the Developer Spacing (Figure 1).

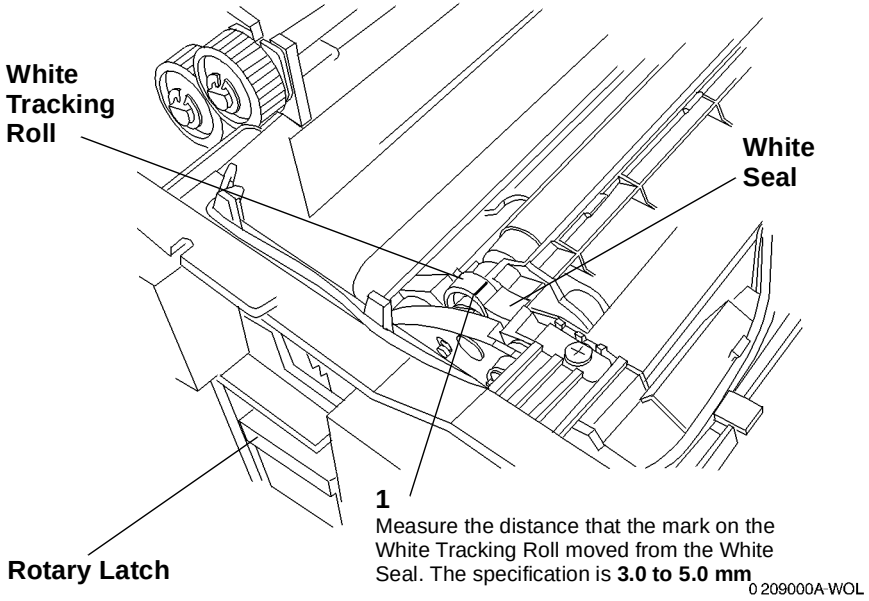

White Tracking Roll
White Seal
Rotary Latch
1
Measure the distance that the mark on the White Tracking Roll moved from the White Seal. The specification is **3.0 to 5.0 mm**
0 209000A-WOL

**Figure 1 Checking the Developer Spacing**

8. If the distance measured is not within specification, perform the adjustment.

## Adjustment

1. Adjust the Developer Spacing (Figure 2).

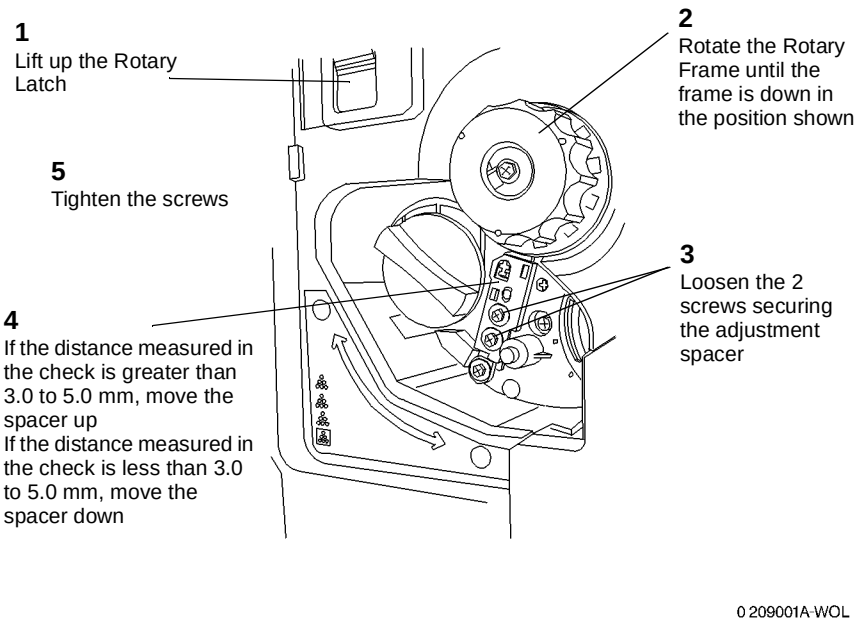

1
Lift up the Rotary Latch
2
Rotate the Rotary Frame until the frame is down in the position shown
5
Tighten the screws
3
Loosen the 2 screws securing the adjustment spacer
4
If the distance measured in the check is greater than 3.0 to 5.0 mm, move the spacer up
If the distance measured in the check is less than 3.0 to 5.0 mm, move the spacer down
0 209001A-WOL

**Figure 2 Adjusting the Developer Spacing**

2. Perform the check again, starting with step 5. Repeat until the measurement is within specification.

# ADJ 10.1 Fuser Nip

## Purpose

The purpose is to adjust the fuser nip in order to ensure correct fusing of documents.

## Check

1. Ensure that the machine is in the **Ready** condition.
2. Make several Internal Nip Test Pattern copies for the check (GP 15).
3. Open the Fuser Assembly.
4. Insert one of the copies into the nip, with image side up, and using the thumb wheel, advance the black copy into the nip.
5. Leave the copy between the rolls.
6. Remove the copy after 10 to 20 seconds.
7. Check the Fuser Nip (Figure 1). Measure the width of the impression left by the nip.
8. If the measurement is not in specification, perform the adjustment.

**1**
Measure the width of the nip at points A and B

**2**
**Check:**
The width of the nip is 7.0 mm and the difference between the two measurements is less than or equal to 0.3 mm

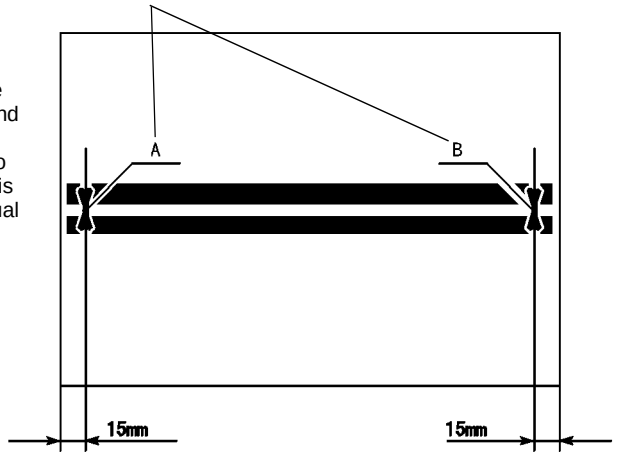



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**Figure 1 Checking the Fuser Nip**

## Adjustment

1. Remove the Upper Guide Assembly (REP 10.3).
2. Adjust the Fuser Nip (Figure 2).
3. Perform the check again.

**1**
Turn the screw, at front or rear, CLOCKWISE to increase or COUNTERCLOCKWISE to decrease the width of the nip

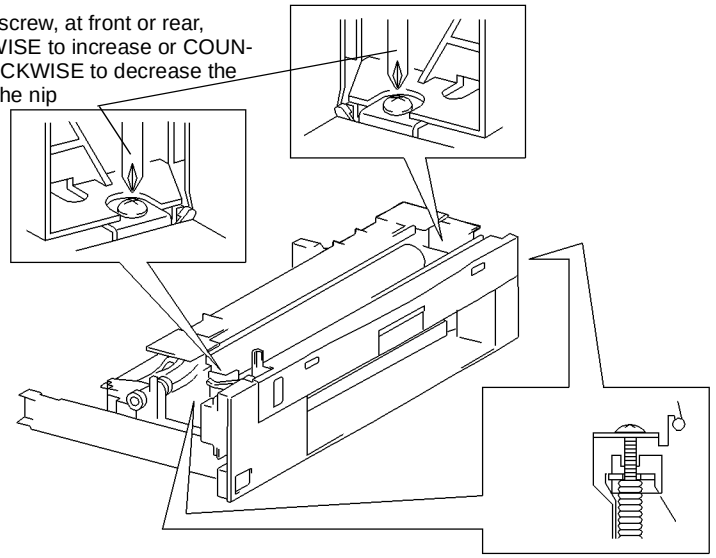

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**Figure 2 Adjusting the Fuser Nip**

# ADJ 11.1 Sorter Bin Cam Position

## Purpose

The purpose is to allow the Sorter Bin Cam to rise and lower the Bin Trays correctly.

***NOTE:*** *The Front and Rear Bin Cams are virtually identical. However, the Rear Bin Cam has a Switch Actuator attached. For this reason, this adjustment procedure is written to apply to both Bin Cams. When adjusting the Front Bin Cam, disregard any references to the switch actuator.*

## Check

**WARNING**

**To avoid personal injury or shock, do not perform repair or adjustment activities with the power switch on or electrical power applied to the machine.**

1. Switch off the machine power and disconnect the machine Power Cord.
2. Remove the Sorter Rear/Front Cover.
3. Remove the rear/front Bin Spring.
4. Be sure that all Bin Trays are in the lowest position. If they are not, move them after removing the Bin Cam Assembly.
5. Verify the Bin Cam positioning. (Figure 1)
   a. Verify that each of the Bin Tray arms is fully inserted to the groove in the Bin Cam.
   b. Verify that the hole in the Bin Cam Shaft and the sorter frame align.
   c. Verify that the Bin Cam Switch (Rear Bin Cam only) is in the actuated position by the raised portion of the switch actuator on the Bin Shaft.

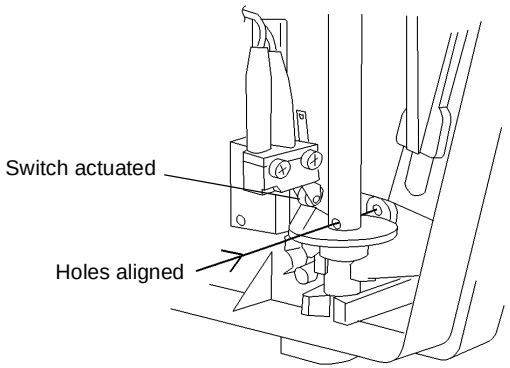


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**Figure 1 Bin Cam Positioning**

## Adjustment

1. Align the hole in the Bin Shaft with the hole in the Sorter Frame. (Figure 2)

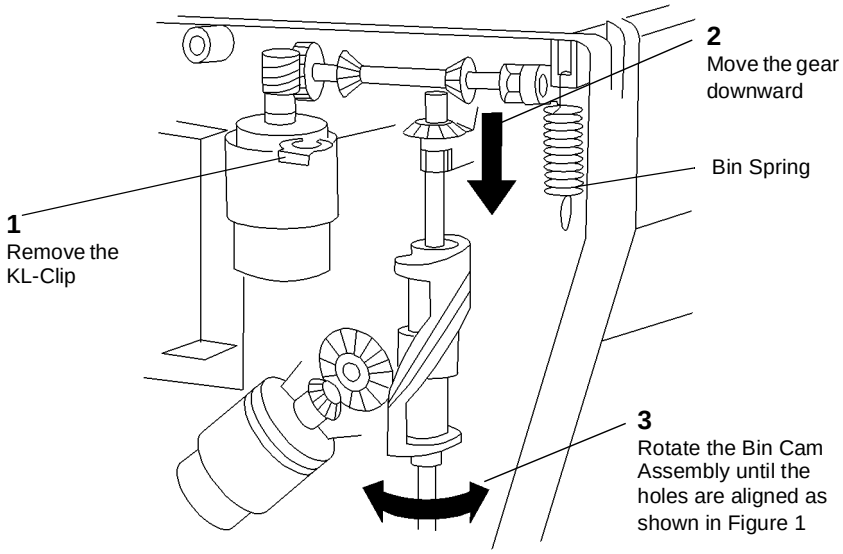


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**Figure 2 Adjusting the Bin Cam**

2. Verify that the Bin Cam Switch is actuated by the raised portion of the switch actuator on the Bin Shaft (Rear Bin Cam only).
3. Move the bevel gear upward and engage it with the upper Gear.
4. Install the KL-Clip as shown in Figure 2.
5. Reattach the Spring.
6. Reinstall the Sorter Rear/Front Cover.

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# Introduction

## Overview

The Parts List section identifies all part numbers and the corresponding location of all spared subsystem components.

## Organization

### Parts Lists

Each item number in the part number listing corresponds to an item number in the related illustration. All the parts in a given subsystem of the machine will be located in the same illustration or in a series of associated illustrations.

### Electrical Connectors and Fasteners

This section contains the illustrations and descriptions of the plugs, jacks, and fasteners used in the machine. A part number listing of the connectors is included.

### Common Hardware

The common hardware is listed in alphabetical order by the letter or letters used to identify each item in the part number listing and in the illustrations. Dimensions are in millimeters unless otherwise identified.

### Part Number Index

This index lists all the spared parts in the machine in numerical order. Each number is followed by a reference to the parts list on which the part may be found.

## Other Information

### Abbreviations

Abbreviations are used in the parts lists and the exploded view illustrations to provide information in a limited amount of space. The following abbreviations are used in this manual:

**Table 1**

| Abbreviation | Meaning |
|---|---|
| **A3** | 297 x 420 Millimeters |
| **A4** | 210 x 297 Millimeters |
| **A5** | 148 x 210 Millimeters |
| **AD** | Auto Duplex |
| **AWG** | American Wire Gauge |
| **EMI** | Electro Magnetic Induction |
| **GB** | Giga Byte |
| **KB** | Kilo Byte |
| **M** | Millimeters |
| **MOD** | Magneto Optical Drive |
| **NOHAD** | Noise Ozone Heat Air Dirt |
| **PL** | Part List |
| **P/O** | Part of |
| **R/E** | Reduction/Enlargement |
| **REF**: | Refer to |
| **SCSI** | Small Computer Systems Interface |
| **W/** | With |
| **W/O** | Without |

**Table 2**

| | **Operating Companies** |
|---|---|
| **Abbreviation** | **Meaning** |
| **NASG** | North American Solutions Group |
| **ESG** | European Solutions Group |

## Symbology

Symbology used in the Parts List section is identified in the Symbology section.

## Service Procedure Referencing

If a part or assembly has an associated repair or adjustment procedure, the procedure number will be listed at the end of the part description in the parts lists e.g. (REP 5.1, ADJ 5.3)

# Subsystem Information

## Use of the Term "Assembly"

The term "assembly" will be used for items in the part number listing that include other itemized parts in the part number listing. When the word "assembly is found in the part number listing, there will be a corresponding item number on the illustrations followed by a bracket and a listing of the contents of the assembly.

## Brackets

A bracket is used when an assembly or kit is spared, but is not shown in the illustration. The item number of the assembly or kit precedes the bracket; the item numbers of the piece parts follow the bracket.

## Tag

The notation "W/Tag" in the parts description indicates that the part configuration has been updated. Check the change Tag index in the General Information section of the Service Data for the name and purpose of the modification.

In some cases, a part or assembly may be spared in two versions: with the Tag and without the Tag. In those cases, use whichever part is appropriate for the configuration of the machine on which the part is to be installed. If the machine does not have a particular Tag and the only replacement part available is listed as "W/Tag," install the Tag kit or all of the piece parts. The Change Tag Index tells you which kit or piece parts you need.

Whenever you install a Tag kit or all the piece parts that make up a Tag, mark the appropriate number on the Tag matrix.

## Symbology

A Tag number within a circle pointing to an item number shows that the part has been changed by the tag number within the circle (Figure 1). Information on the modification is in the Change Tag Index.

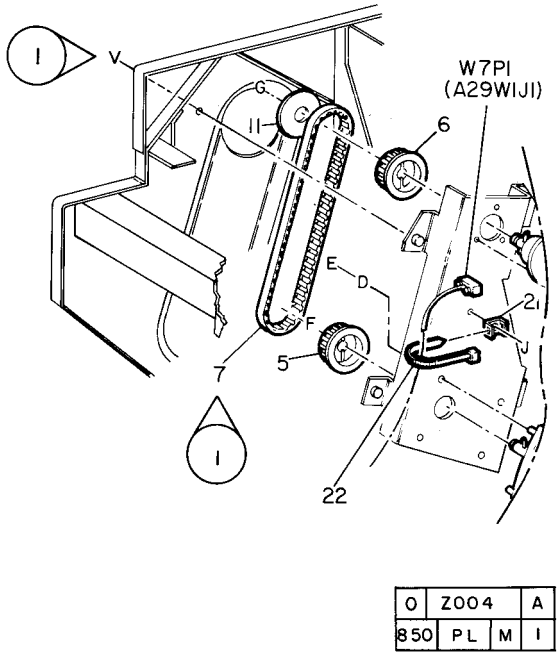



**Figure 1 With Tag Symbol**

A Tag number within a circle having a shaded bar and pointing to an item number shows that the configuration of the part shown is the configuration before the part was changed by the Tag number within the circle (Figure 2).

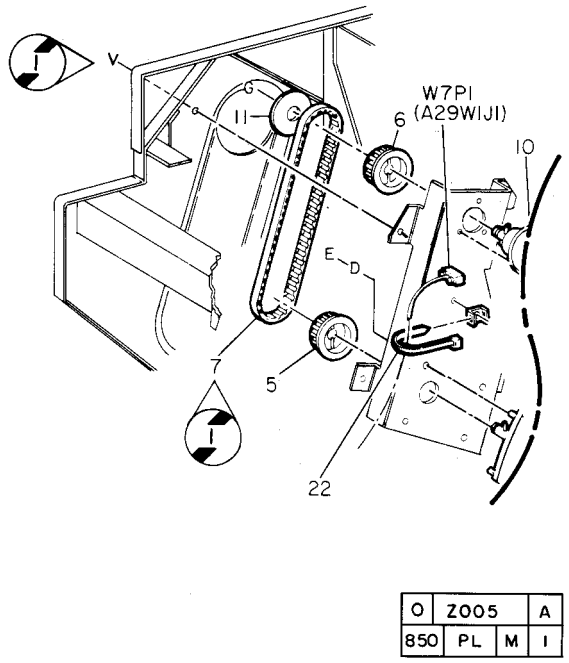



**Figure 2 Without Tag Symbol**

A tag number within a circle with no apex shows that the entire drawing has been changed by the tag number within the circle (Figure 3). Information on the modification is in the Change Tag Index.

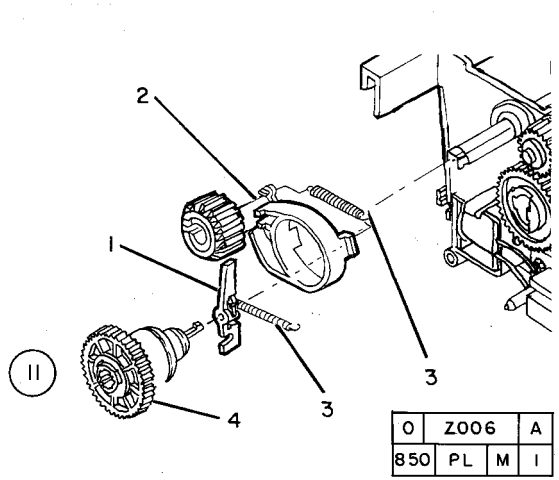



**Figure 3 Entire Drawing With Tag Symbol**

A tag number within a circle with no apex and having a shaded bar shows that the entire drawing was the configuration before being changed by the tag number within the circle (Figure 4).

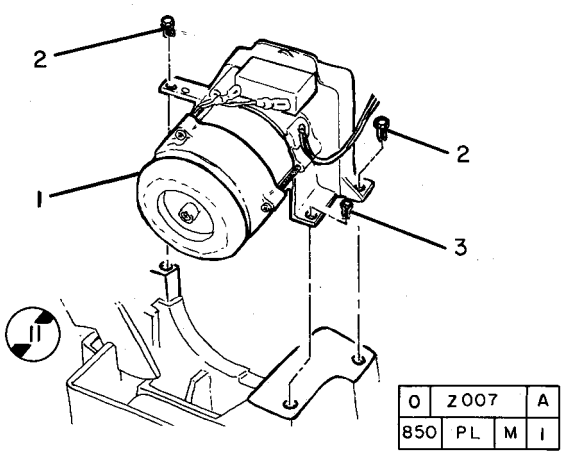
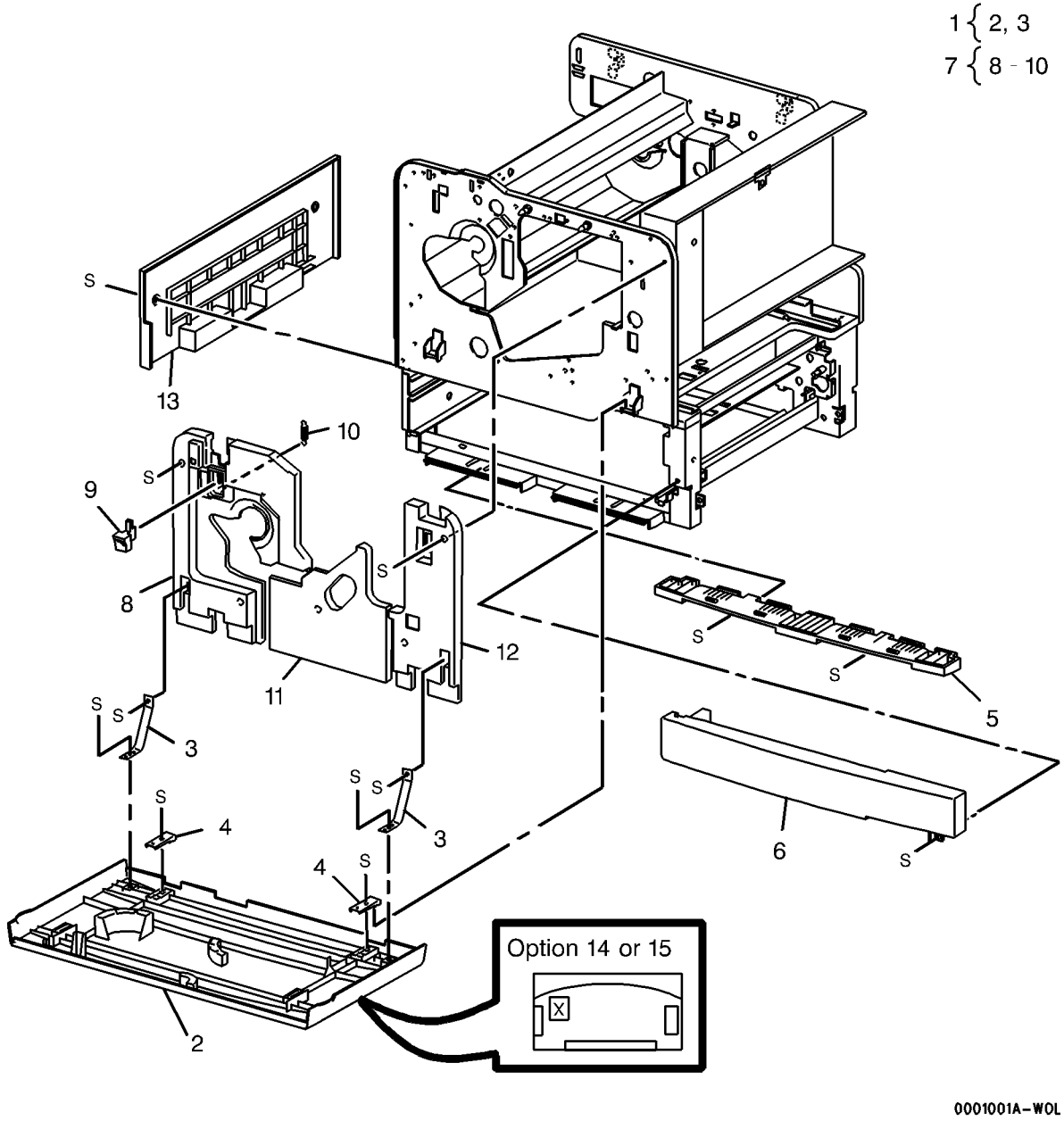



**Figure 4 Entire Drawing Without Tag Symbol**

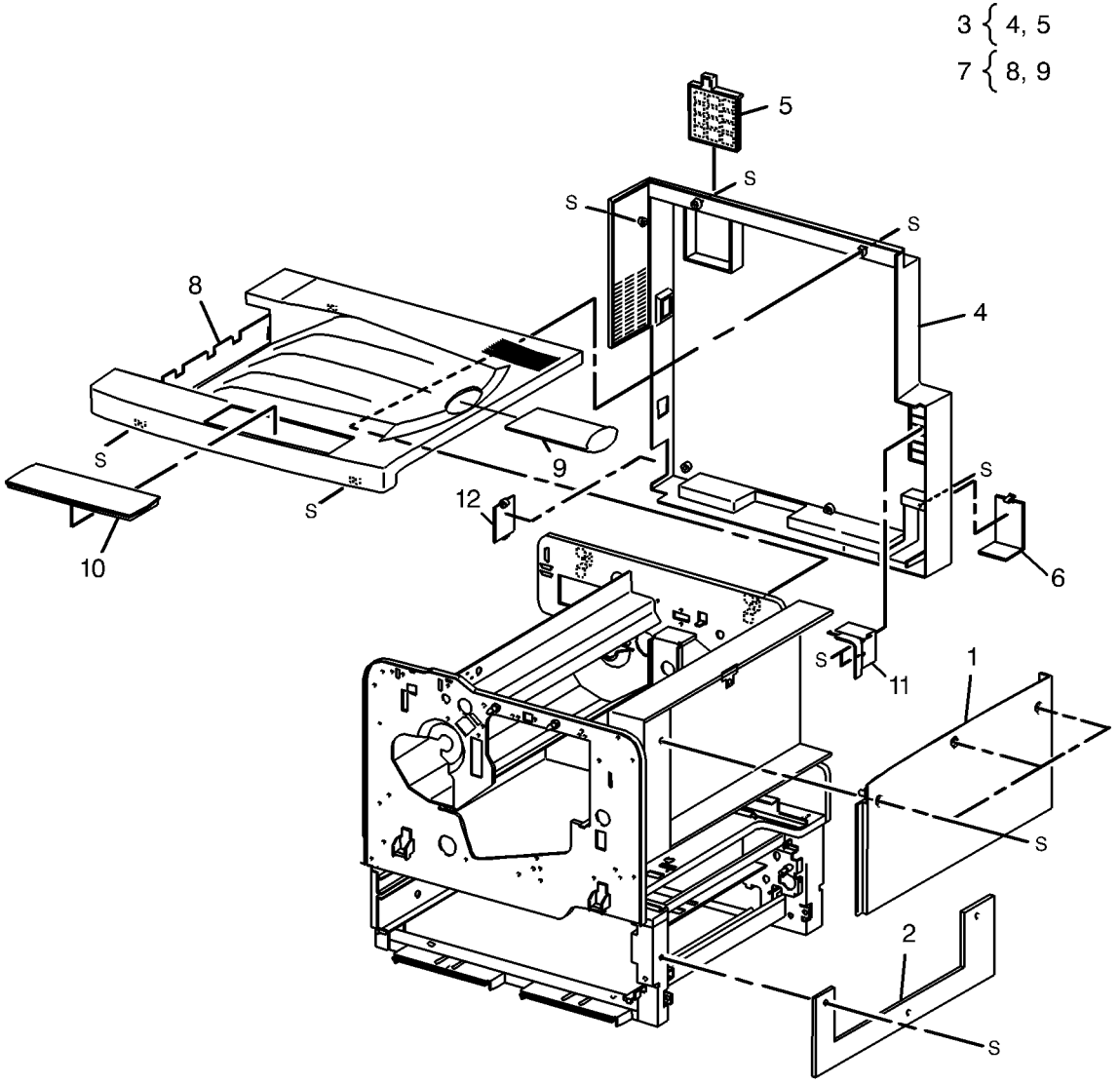
## PL 1.1 Front and Left Covers

| Item | Part | Description |
|---|---|---|
| 1 | 802K18401 | Front Cover Assembly (REP 14.1) |
| 2 | – | Front Cover (P/O PL 1.1 Item 1) |
| 3 | – | Cover Support (P/O PL 1.1 Item 1) |
| 4 | – | Hinge Plate (Not Spared) |
| 5 | 048E52291 | Front Lower Cover (REP 14.3) |
| 6 | 802K11970 | Front Middle Cover (REP 14.2) |
| 7 | 802K17141 | Left Inner Cover Assembly (REP 14.5) |
| 8 | – | Left Inner Cover (P/O PL 1.1 Item 7) |
| 9 | – | Rotary Latch Lever (P/O PL 1.1 Item 7) |
| 10 | – | Rotary Latch Spring (P/O PL 1.1 Item 7) |
| 11 | 802K12480 | IBT Inner Cover (REP 14.5) |
| 12 | 802K17151 | Right Inner Cover (REP 14.5) |
| 13 | 802E05350 | Left Lower Cover (REP 14.8) |
| 14 | 600K85500 | LP Name Plate |
| 15 | 600K85510 | CP Name Plate |



# PL 1.2 Rear, Right and Top Covers

| Item | Part | Description |
|---|---|---|
| 1 | 802K25830 | Right Cover (REP 14.9) |
| 2 | 802E05370 | Right Lower Cover (REP 14.11) |
| 3 | – | Rear Cover Assembly (Not Spared) |
| 4 | 802E05291 | Rear Cover (REP 14.6) |
| 5 | 053K91391 | Filter (REP 14.7) |
| 6 | 802E05311 | Option Hinge Cover |
| 7 | 802K17122 | Top Cover Assembly (REP 14.4) |
| 8 | – | Top Cover (P/O PL 1.2 Item 7) |
| 9 | – | Stopper Cover (P/O PL 1.2 Item 7) |
| 10 | 802K16990 | Control Panel (IOT) (REP 14.10) |
| 11 | – | Right Hand Cover (Not Spared) |
| 12 | 802E05331 | Left Option Hinge Cover |



## PL 1.3 Base Frame (1 of 2)

| Item | Part | Description |
|---|---|---|
| 1 | – | Base Frame Hi Assembly (Not Spared) |
| 2 | – | Base Frame Assembly (Not Spared) |
| 3 | – | Developer Tie Plate (Not Spared) (REP 9.14) |
| 4 | – | Clamp (Not Spared) |
| 5 | – | Developer Outer Seal (Not Spared) |
| 6 | – | DL Bracket (Not Spared) |
| 7 | – | DL Bracket Assembly (Not Spared) |
| 8 | – | PWB Support (Not Spared) |
| 9 | – | Developer Seal (Not Spared) |
| 10 | – | Connector-5P (Not Spared) |
| 11 | – | Connector-3P (Not Spared) |
| 12 | – | Connector-8P (Not Spared) |
| 13 | – | Connector-4P (Not Spared) |
| 14 | – | Bushing (Not Spared) |
| 15 | – | Bushing (Not Spared) |
| 16 | – | Frame Clamp-L (Not Spared) |
| 17 | – | Frame Clamp-M (Not Spared) |
| 18 | – | Frame Clamp-U (Not Spared) |
| 19 | – | Clamp (Not Spared) |
| 20 | – | Rear Plate (Not Spared) |

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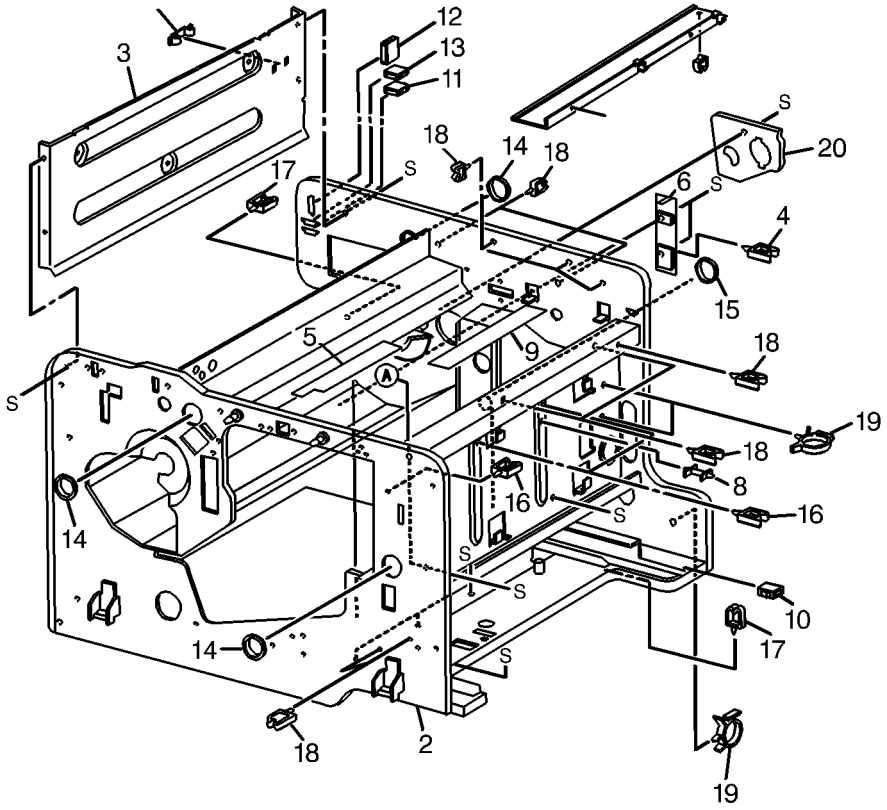


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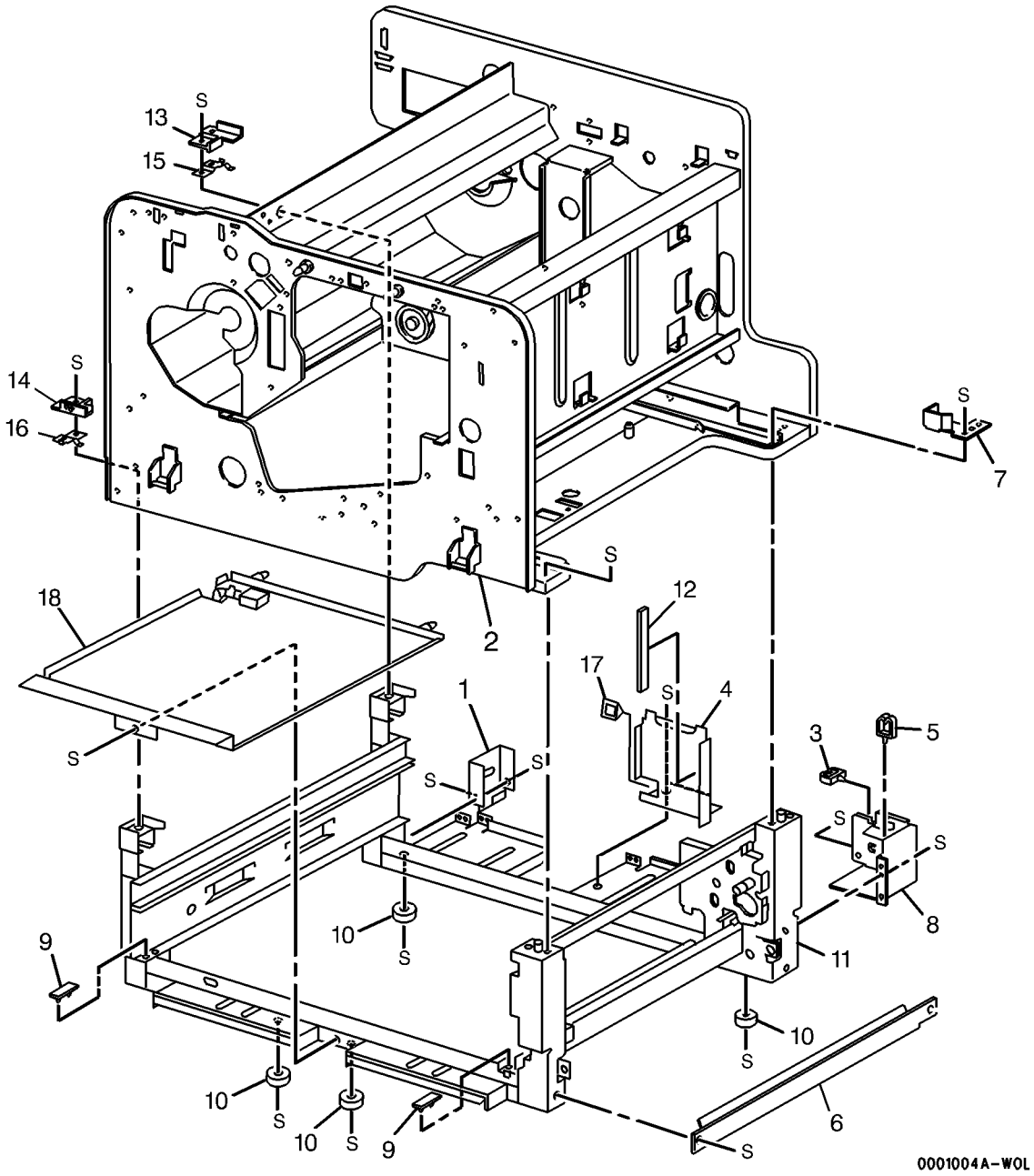
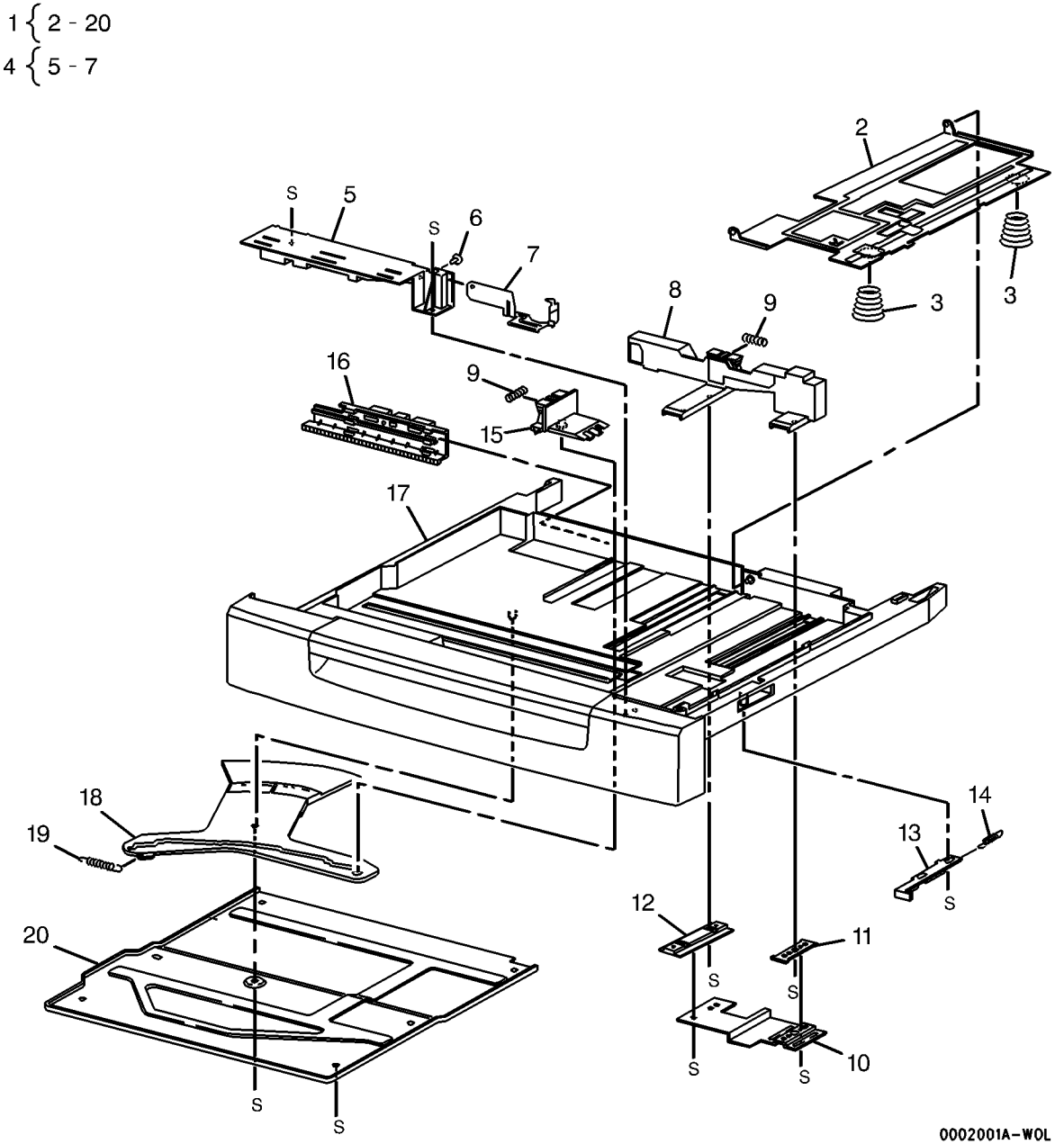
# PL 1.4 Base Frame (2 of 2)

| Item | Part | Description |
|---|---|---|
| 1 | – | Duplex Connector Bracket (Not Spared) |
| 2 | – | Base Frame (Not Spared) |
| 3 | – | Saddle (Not Spared) |
| 4 | – | Cover Bracket (Not Spared) |
| 5 | – | Clamp (Not Spared) |
| 6 | – | Right Hand Lower Bracket (Not Spared) |
| 7 | – | Paper Handling Guide Bracket (Not Spared) |
| 8 | – | Bracket (Not Spared) |
| 9 | – | Clamp (Not Spared) |
| 10 | – | Frame Foot (Not Spared) |
| 11 | – | Feeder Frame (Not Spared) |
| 12 | – | Bushing (Not Spared) |
| 13 | – | Fuser Rear Guide (Not Spared) |
| 14 | – | Fuser Front Guide (Not Spared) |
| 15 | – | Fuser Rear Spring (Not Spared) |
| 16 | – | Fuser Front Spring (Not Spared) |
| 17 | – | Edge Saddle-U (Not Spared) |
| 18 | – | Lower Chute (Not Spared) |



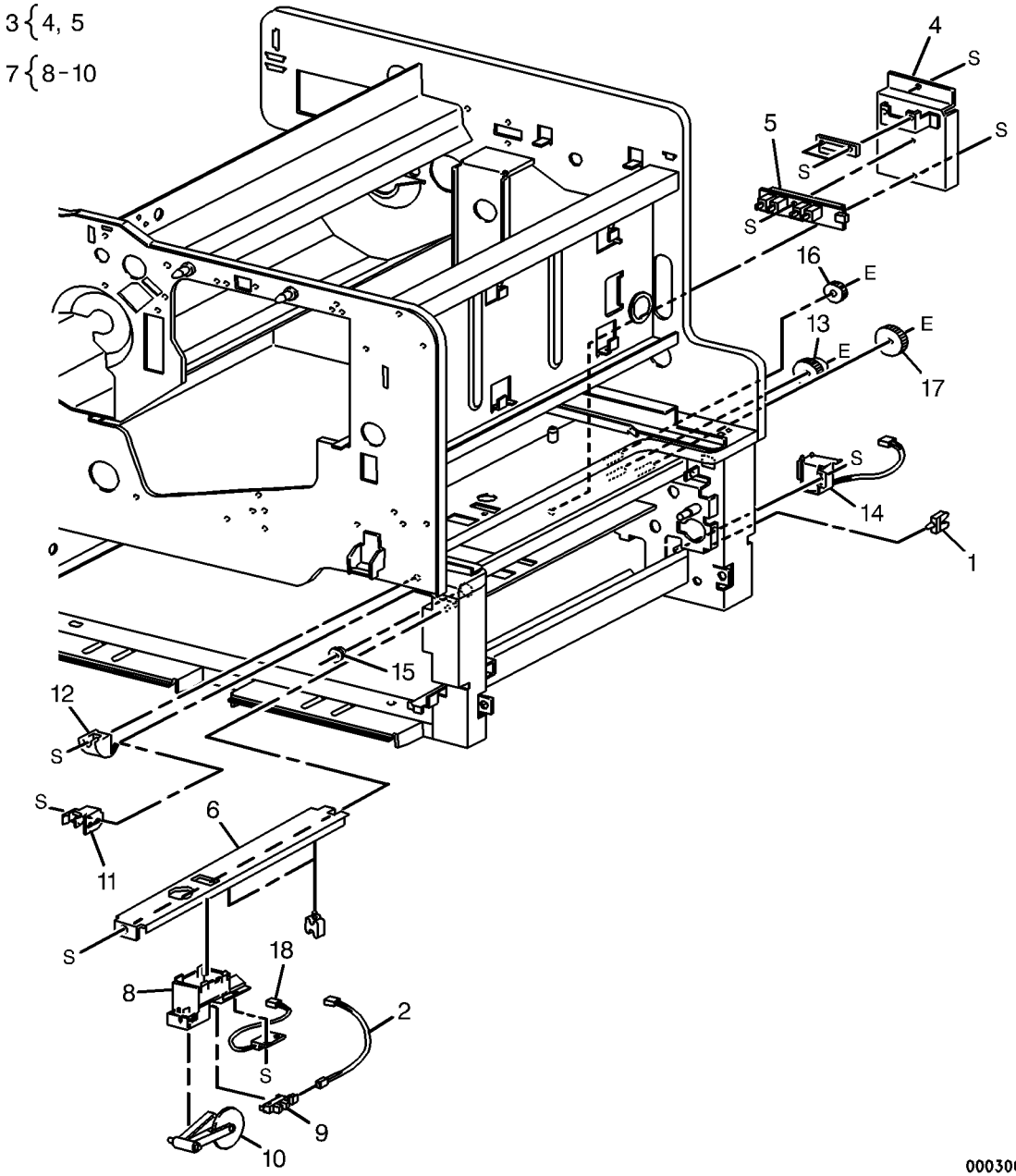
# PL 2.1 Paper Tray

| Item | Part | Description |
|---|---|---|
| 1 | 050K42472 | Tray 1 Assembly (REP 7.6) |
| 2 | – | Lift Plate (P/O PL 2.1 Item 1) |
| 3 | – | Tray Spring (P/O PL 2.1 Item 1) |
| 4 | – | Front Guide Assembly (P/O PL 2.1 Item 1) |
| 5 | – | Front Guide (P/O PL 2.1 Item 1) |
| 6 | – | Snubber Stopper (P/O PL 2.1 Item 1) |
| 7 | 019K94190 | Tray 1 Front Snubber (REP 7.7) |
| 8 | – | Rear Guide (P/O PL 2.1 Item 1) |
| 9 | – | Guide Spring (P/O PL 2.1 Item 1) |
| 10 | – | Lock Plate (P/O PL 2.1 Item 1) |
| 11 | – | Right Rear Guide Plate (P/O PL 2.1 Item 1) |
| 12 | – | Left Rear Guide Plate (P/O PL 2.1 Item 1) |
| 13 | – | Plate Link (P/O PL 2.1 Item 1) |
| 14 | – | Plate Link Spring (P/O PL 2.1 Item 1) |
| 15 | 038K85490 | End Guide |
| 16 | – | Tray Size Actuator (P/O PL 2.1 Item 1) |
| 17 | – | Tray Housing (P/O PL 2.1 Item 1) |
| 18 | – | Sector Gear (P/O PL 2.1 Item 1) |
| 19 | – | Sector Gear Spring (P/O PL 2.1 Item 1) |
| 20 | – | Tray Bottom Cover (P/O PL 2.1 Item 1) |



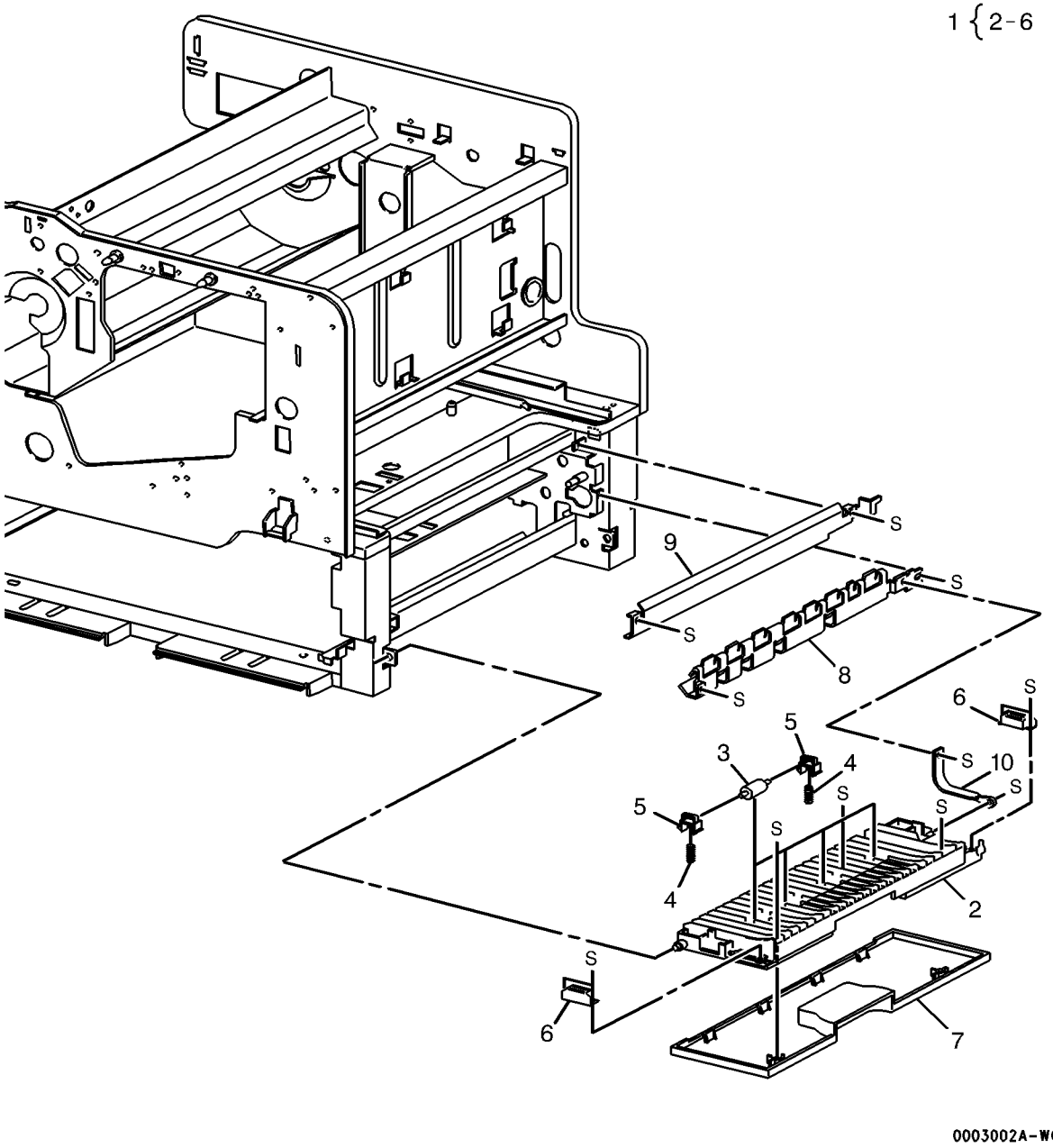
# PL 3.1 Tray 1 Paper Feeder (1 of 3)

| Item | Part | Description |
|---|---|---|
| 1 | – | Bracket Clamp (Not Spared) |
| 2 | – | Harness (Not Spared) |
| 3 | – | Size Bracket Assembly (Not Spared) |
| 4 | – | Size Switch Bracket (Not Spared) |
| 5 | 110K07770 | Size Switch PWB (REP 7.1) |
| 6 | – | Sensor Bracket (Not Spared) (REP 7.2) |
| 7 | – | No Paper Sensor Assembly (Not Spared) (REP 7.3) |
| 8 | – | No Paper Bracket (Not Spared) |
| 9 | 130E81970 | No Paper Sensor (REP 7.4) |
| 10 | – | No Paper Actuator (Not Spared) |
| 11 | – | Stopper (Not Spared) |
| 12 | – | Feed Shaft Guide (Not Spared) |
| 13 | – | Feed Idler Gear (Not Spared) |
| 14 | 121E84500 | Feed Solenoid (REP 8.5) |
| 15 | – | Feed Bearing (Not Spared) |
| 16 | – | Turn Gear D (Not Spared) |
| 17 | – | Turn Gear L (Not Spared) |
| 18 | 110E97970 | Low Paper Sensor (REP 7.5) |



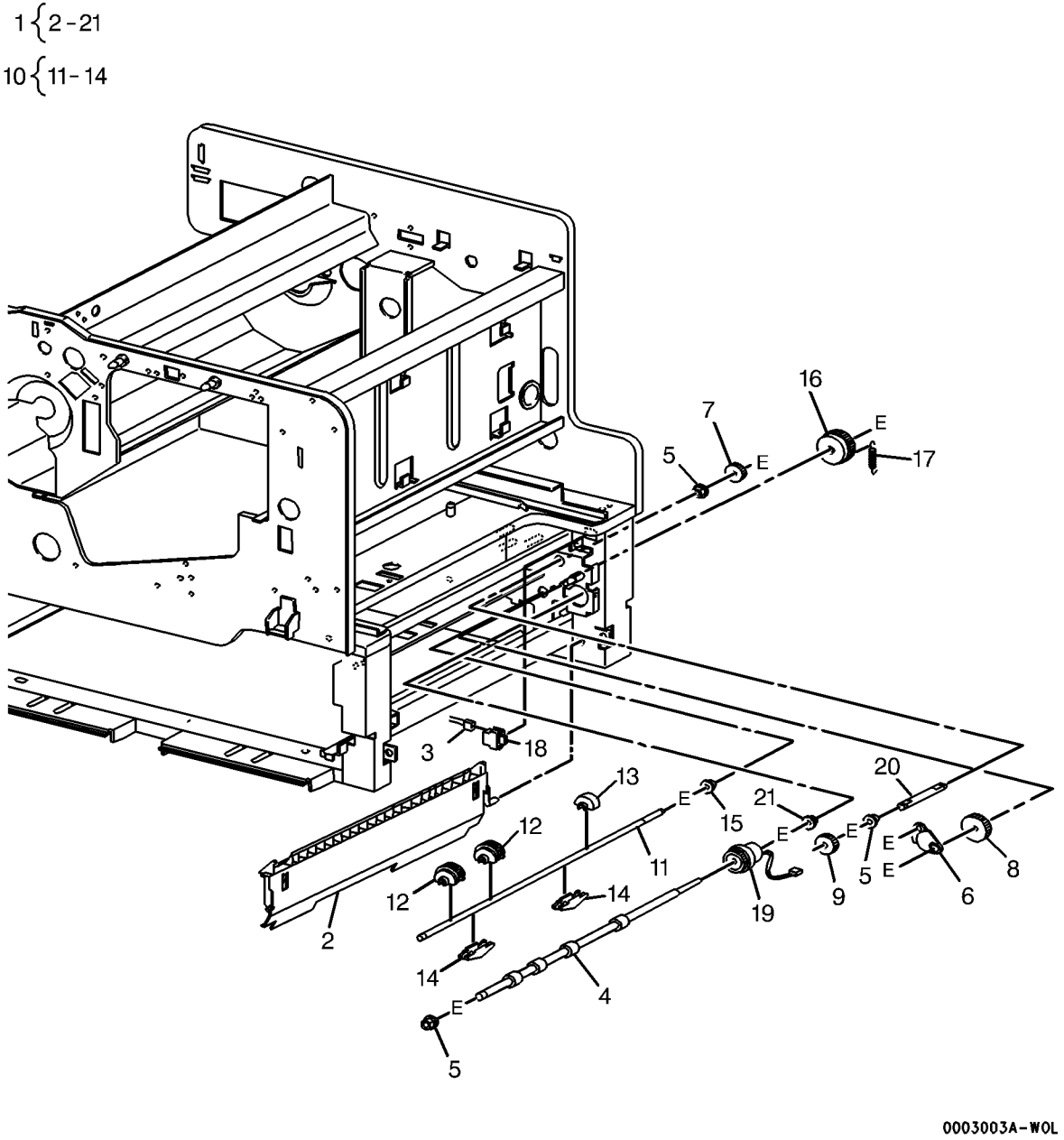
# PL 3.2 Tray 1 Paper Feeder (2 of 3)

| Item | Part | Description |
|---|---|---|
| 1 | – | Upper Turn Chute Assembly (Not Spared) |
| 2 | – | Upper Turn Chute (Not Spared) |
| 3 | – | Pinch Roll (Not Spared) |
| 4 | – | Pinch Spring (Not Spared) |
| 5 | – | Pinch Spring Housing (Not Spared) |
| 6 | – | Magnet Catch (Not Spared) |
| 7 | 802E05560 | Turn Chute Cover |
| 8 | – | Outer Turn Chute (Not Spared) |
| 9 | – | Inner Turn Chute (Not Spared) |
| 10 | 830E19490 | Turn Cover Stopper |



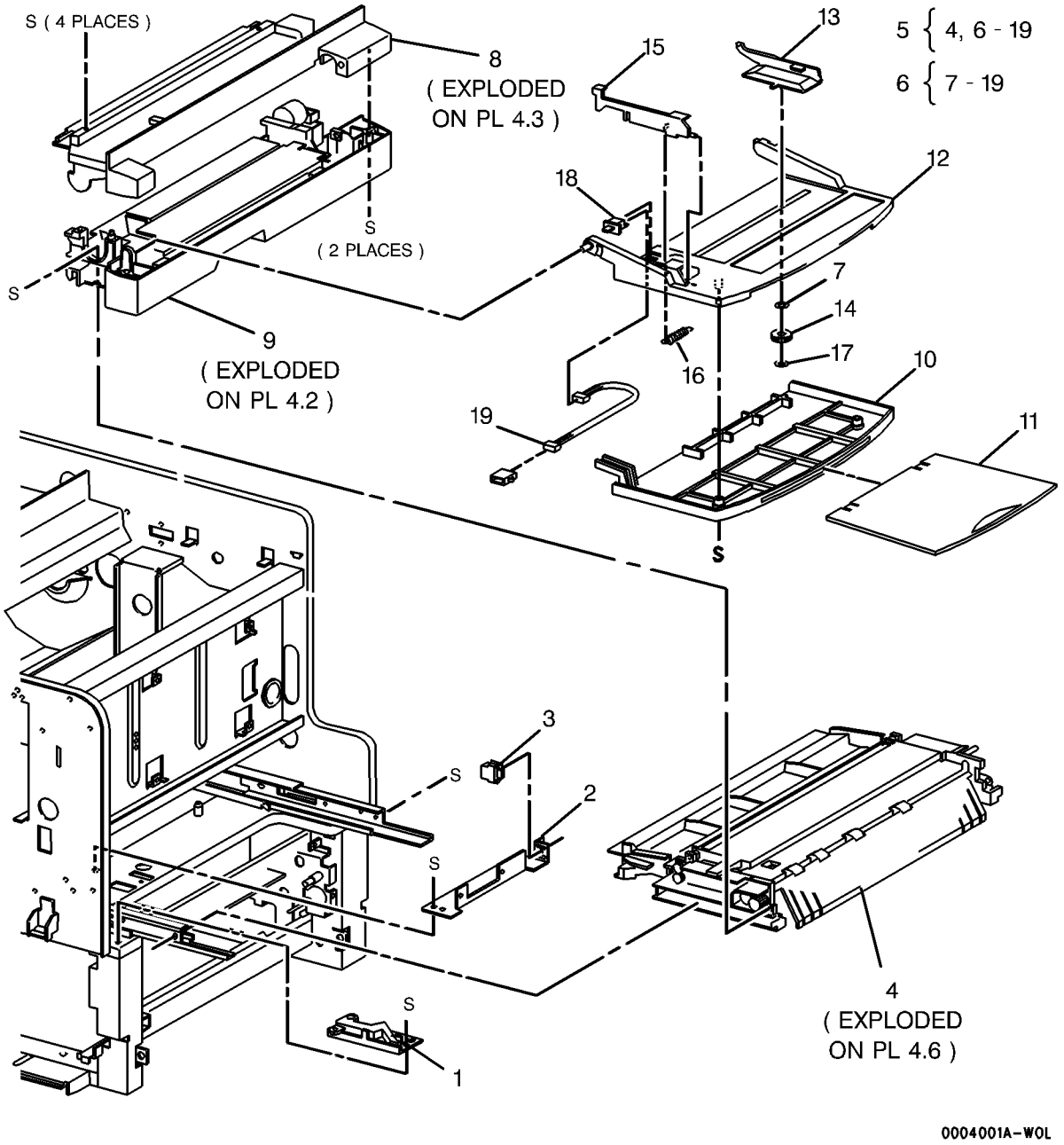
# PL 3.3 Tray 1 Paper Feeder (3 of 3)

| Item | Part | Description |
|---|---|---|
| 1 | – | Feeder Assembly (Not Spared) |
| 2 | – | Turn In Chute (Not Spared) |
| 3 | – | Harness (Not Spared) |
| 4 | 059K14390 | Turn Roll (REP 8.1) |
| 5 | – | Turn Front Bearing (Not Spared) |
| 6 | – | Turn Gear Cover (Not Spared) |
| 7 | – | Turn Gear S (Not Spared) |
| 8 | – | Turn Gear M (Not Spared) |
| 9 | – | Turn Gear D (Not Spared) |
| 10 | 059K04840 | Feed Roll Assembly (REP 8.3) |
| 11 | – | Feed Shaft (P/O PL 3.3 Item 10) |
| 12 | 600K73770 | Feed Roll Kit (REP 8.2) |
| 13 | – | Feed Core Roll (P/O PL 3.3 Item 10) |
| 14 | – | Feed Roll Guide (P/O PL 3.3 Item 10) |
| 15 | – | Bearing (Not Spared) |
| 16 | – | Feed Gear (Not Spared) |
| 17 | 009E71750 | Feed Spring |
| 18 | 110E93440 | Turn Chute Interlock |
| 19 | 121K23790 | Turn Clutch (REP 8.4) |
| 20 | – | Turn Gear Shaft (Not Spared) |
| 21 | – | Bearing (Not Spared) |



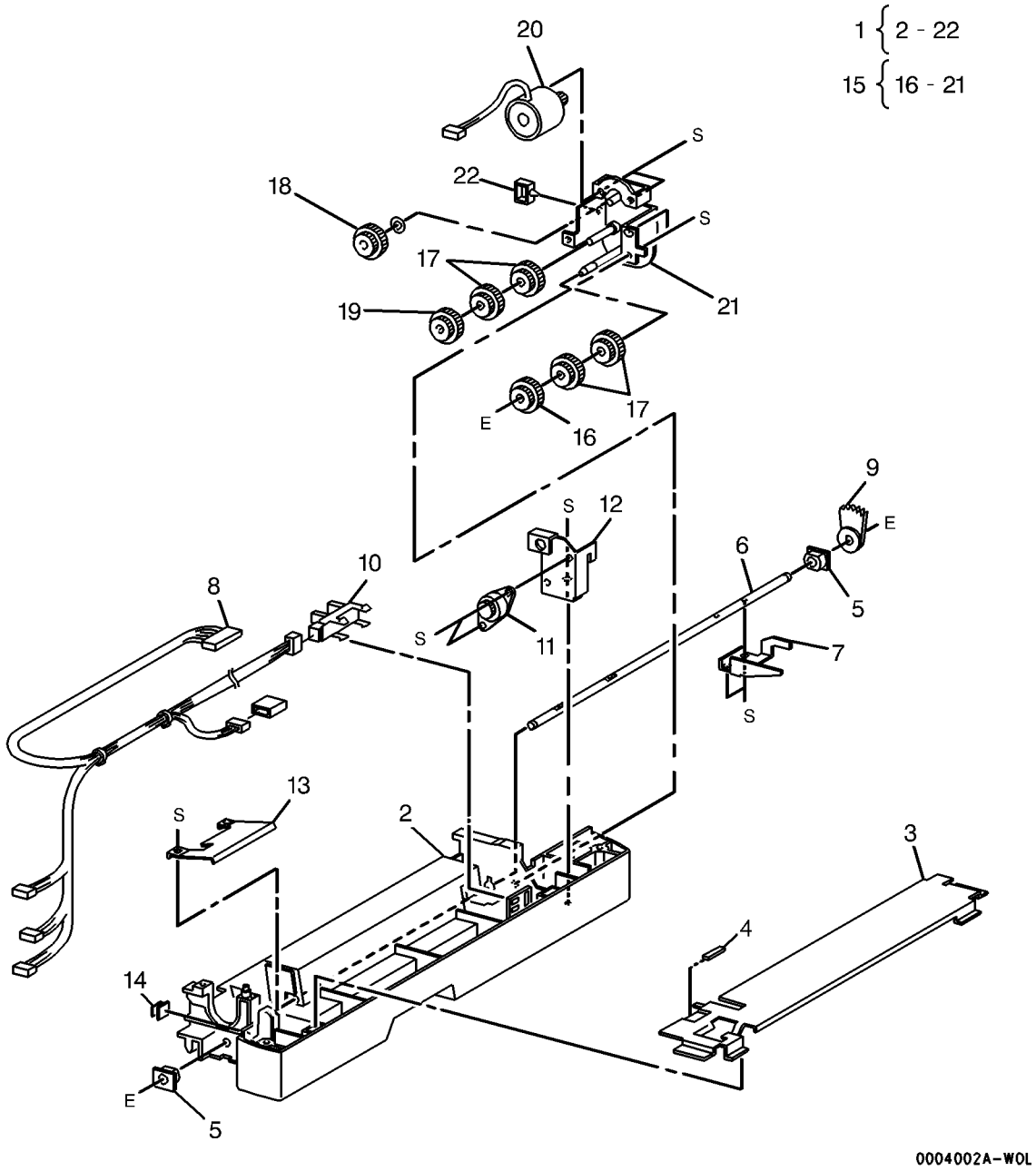
# PL 4.1 Bypass Tray/ Paper Transport (1 of 7)

| Item | Part | Description |
|---|---|---|
| 1 | – | Latch Arm (Not Spared) |
| 2 | – | Paper Handling Bracket (Not Spared) |
| 3 | 110E93440 | Bypass Tray Interlock |
| 4 | 001K73551 | Main Paper Handling Frame Assembly (REP 8.9) |
| 5 | – | Bypass Tray/Registration Assembly (REP 8.6) |
| 6 | 050K42570 | Bypass Tray Assembly |
| 7 | – | Nylon Washer (P/O PL 4.1 Item 5, PL 4.1 Item 6) |
| 8 | – | Bypass Tray Feed Assembly (P/O PL 4.1 Item 5, PL 4.1 Item 6) (REP 8.8) |
| 9 | – | Base Assembly (P/O PL 4.1 Item 5, PL 4.1 Item 6) (REP 8.7) |
| 10 | – | Tray Bottom (P/O PL 4.1 Item 5, PL 4.1 Item 6) |
| 11 | – | Tray Extension (P/O PL 4.1 Item 5, PL 4.1 Item 6) |
| 12 | – | Tray Housing (P/O PL 4.1 Item 5, PL 4.1 Item 6) |
| 13 | – | Guide Holder (P/O PL 4.1 Item 5, PL 4.1 Item 6) |
| 14 | – | Guide Gear (P/O PL 4.1 Item 5, PL 4.1 Item 6) |
| 15 | – | Registration Guide (P/O PL 4.1 Item 5, PL 4.1 Item 6) |
| 16 | – | Guide Spring (P/O PL 4.1 Item 5, PL 4.1 Item 6) |
| 17 | – | Spring Washer (P/O PL 4.1 Item 5, PL 4.1 Item 6) |
| 18 | – | Bypass Tray Guide Switch (P/O PL 4.1 Item 5, PL 4.1 Item 6) |
| 19 | – | Harness (P/O PL 4.1 Item 5, PL 4.1 Item 6) |



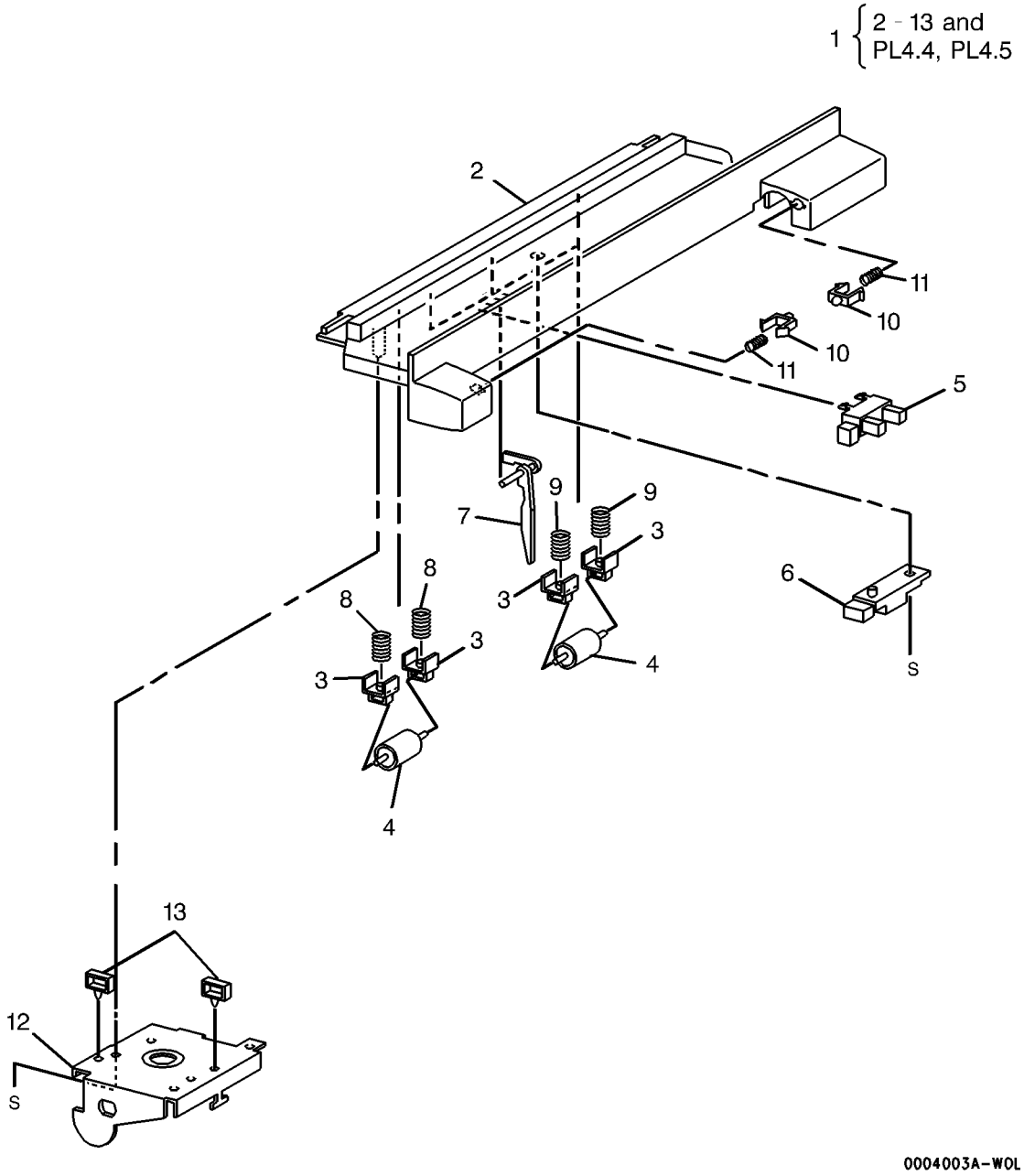
# PL 4.2 Bypass Tray/ Paper Transport (2 of 7)

| Item | Part | Description |
|---|---|---|
| 1 | – | Bypass Tray Base Assembly (Not Spared) |
| 2 | – | Bypass Frame (Not Spared) |
| 3 | – | Bottom Plate (Not Spared) |
| 4 | – | Pad (Not Spared) |
| 5 | – | Sleeve Bearing (Not Spared) |
| 6 | – | Lift Shaft (Not Spared) |
| 7 | – | Lift Down Actuator (Not Spared) |
| 8 | 162K53330 | Bypass Tray Harness |
| 9 | – | Gear 28 (Not Spared) |
| 10 | 130E82190 | Lift Plate Sensor (REP 8.10) |
| 11 | – | Damper (Not Spared) |
| 12 | – | Tray Bracket (Not Spared) |
| 13 | – | Lift Plate (Not Spared) |
| 14 | – | Clamp (Not Spared) |
| 15 | 001K69770 | Lift Frame Assembly (REP 8.11) |
| 16 | – | Gear 12/28-2 (P/O PL 4.2 Item 15) |
| 17 | – | Gear 12/28-1 (P/O PL 4.2 Item 15) |
| 18 | – | Gear 12/44 (P/O PL 4.2 Item 15) |
| 19 | – | Gear 10/20 (P/O PL 4.2 Item 15) |
| 20 | – | Lift Motor (P/O PL 4.2 Item 15) |
| 21 | – | Motor Frame (P/O PL 4.2 Item 15) |
| 22 | – | Clamp (Not Spared) |



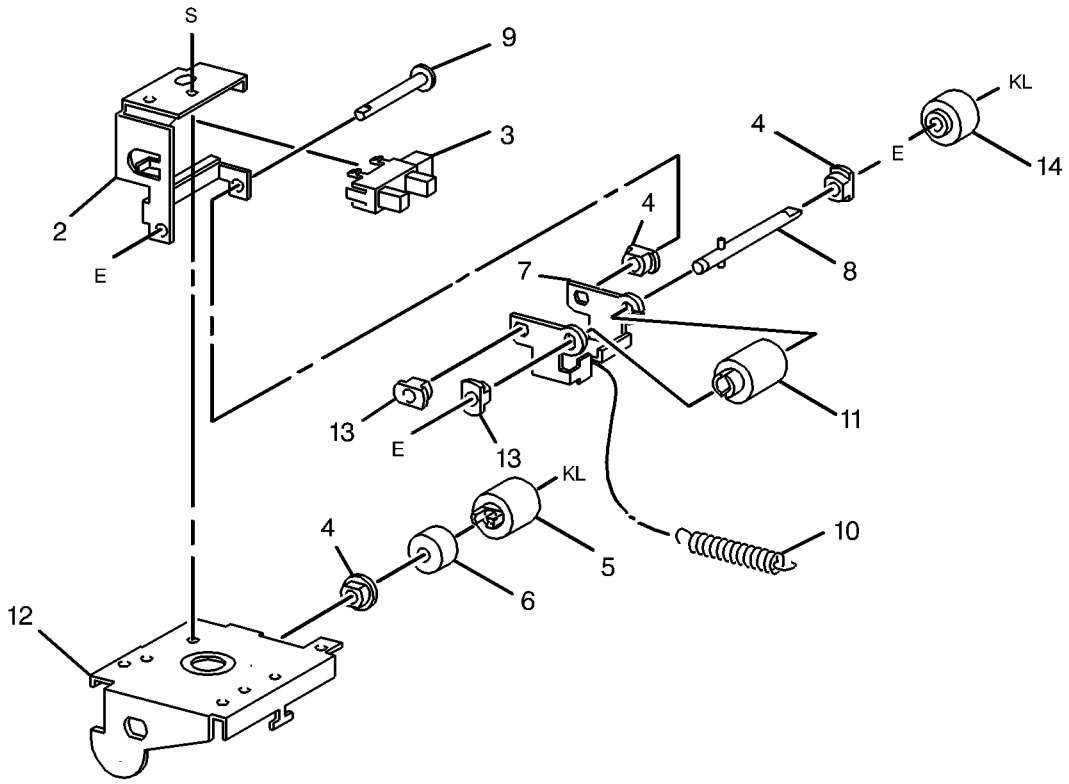
# PL 4.3 Bypass Tray/ Paper Transport (3 of 7)

| Item | Part | Description |
|---|---|---|
| 1 | – | Feed Assembly (Not Spared) |
| 2 | – | Preregistration Chute (Not Spared) |
| 3 | – | Preregistration Spring Housing (Not Spared) |
| 4 | – | Pinch Roll (Not Spared) |
| 5 | 130E81970 | Tray Empty Sensor (REP 8.12) |
| 6 | 130E82650 | Pitch Sensor (REP 8.13) |
| 7 | 120E17680 | Tray Empty Actuator |
| 8 | – | Preregistration Spring 2 (Not Spared) |
| 9 | – | Preregistration Spring 1 (Not Spared) |
| 10 | – | Lock Pin (Not Spared) |
| 11 | – | Tray Spring (Not Spared) |
| 12 | – | Top Frame (Not Spared) |
| 13 | – | Clamp (Not Spared) |



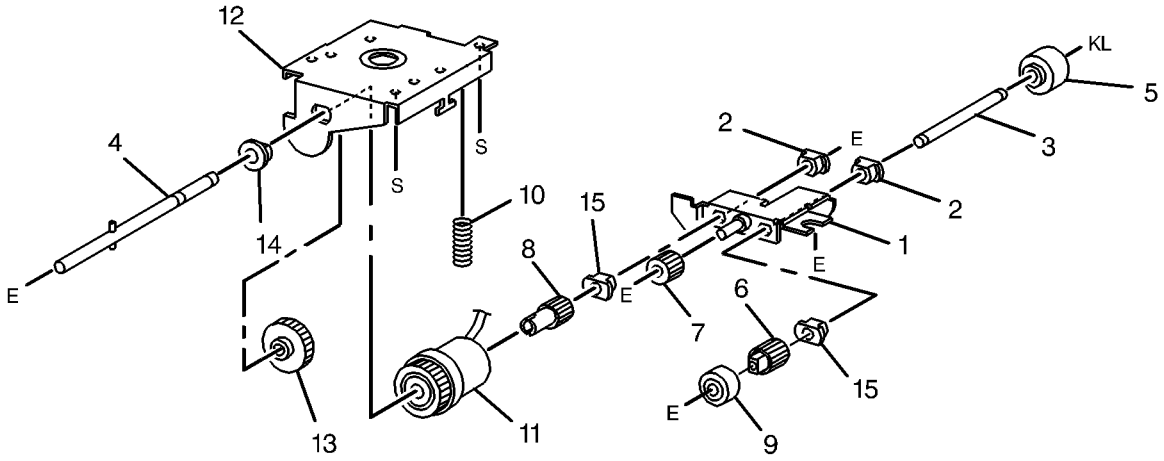
# PL 4.4 Bypass Tray/ Paper Transport (4 of 7)

| Item | Part | Description |
|---|---|---|
| 1 | 001K69743 | Feed Frame Assembly |
| 2 | – | Stack Height Sensor Bracket (P/O PL 4.4 Item 1) |
| 3 | 130E82190 | Stack Height Sensor (REP 8.14) |
| 4 | – | Bearing (P/O PL 4.4 Item 1) |
| 5 | – | Friction Clutch (P/O PL 4.4 Item 1) |
| 6 | – | Feed Roll (P/O PL 4.4 Item 1) |
| 7 | – | Nudger Support (P/O PL 4.4 Item 1) |
| 8 | – | Retard Shaft (P/O PL 4.4 Item 1) |
| 9 | – | Support Shaft (P/O PL 4.4 Item 1) |
| 10 | – | Retard Spring (P/O PL 4.4 Item 1) |
| 11 | – | Friction Clutch (P/O PL 4.4 Item 1) |
| 12 | – | Top Frame (P/O PL 4.4 Item 1) |
| 13 | – | Bearing (P/O PL 4.4 Item 1) |
| 14 | – | Retard Roll (P/O PL 4.4 Item 1) |



# PL 4.5 Bypass Tray/ Paper Transport (5 of 7)

| Item | Part | Description |
|---|---|---|
| 1 | – | Nudger Support (P/O PL 4.4 Item 1) |
| 2 | – | Bearing (P/O PL 4.4 Item 1) |
| 3 | – | Nudger Shaft (P/O PL 4.4 Item 1) |
| 4 | – | Feed Shaft (P/O PL 4.4 Item 1) |
| 5 | – | Nudger/Retard Roll (P/O PL 4.4 Item 1) |
| 6 | – | Nudger Gear-17 (P/O PL 4.4 Item 1) |
| 7 | – | Idler Gear-20 (P/O PL 4.4 Item 1) |
| 8 | – | Feed Gear-14 (P/O PL 4.4 Item 1) |
| 9 | – | Nudger Clutch (P/O PL 4.4 Item 1) |
| 10 | – | Nudger Spring (P/O PL 4.4 Item 1) |
| 11 | – | Feed Clutch (P/O PL 4.4 Item 1) |
| 12 | – | Top Frame (P/O PL 4.4 Item 1) |
| 13 | – | Preregistration Idler Gear (P/O PL 4.4 Item 1) |
| 14 | – | Bearing (P/O PL 4.4 Item 1) |
| 15 | – | Bearing (P/O PL 4.4 Item 1) |

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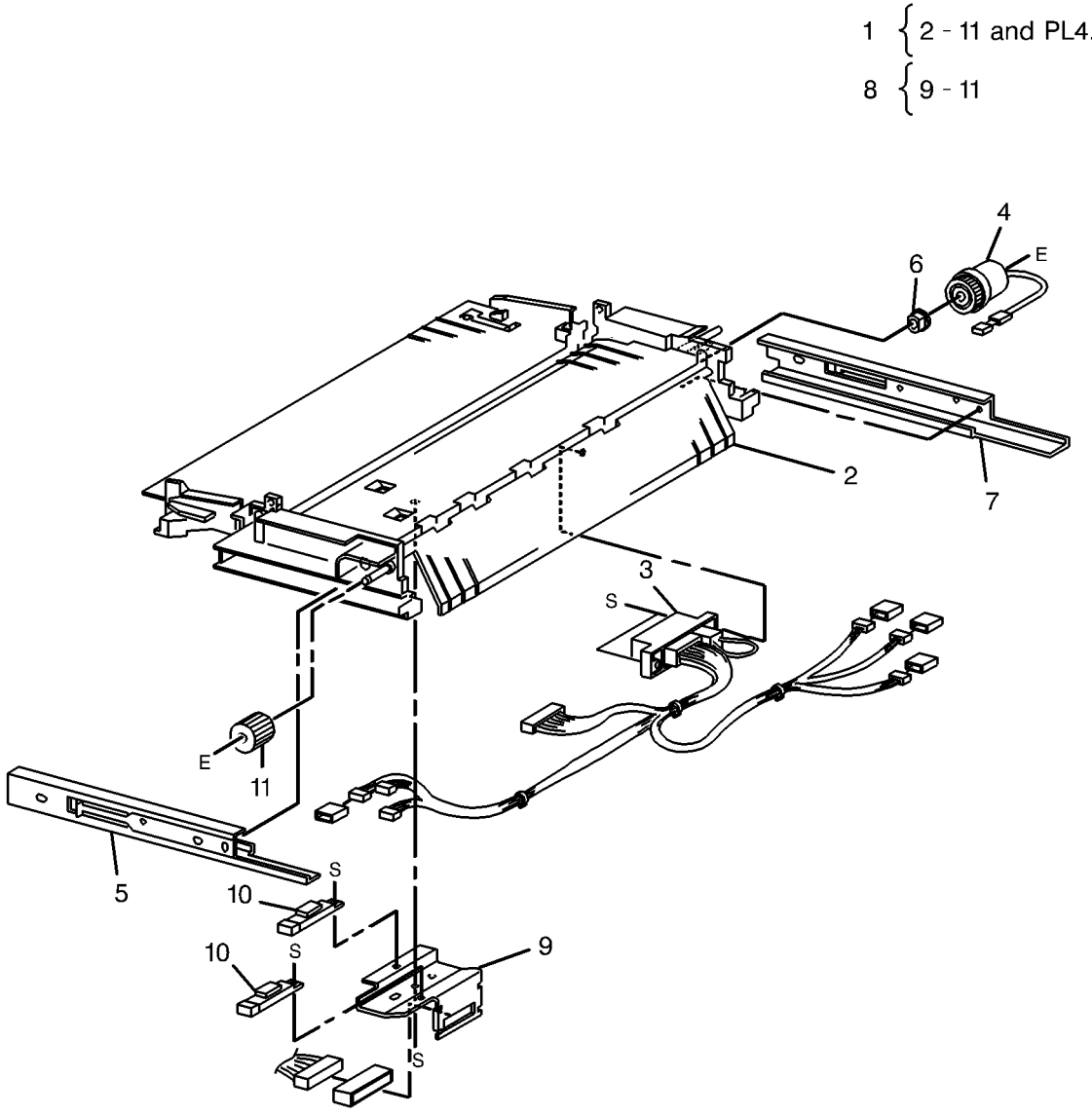
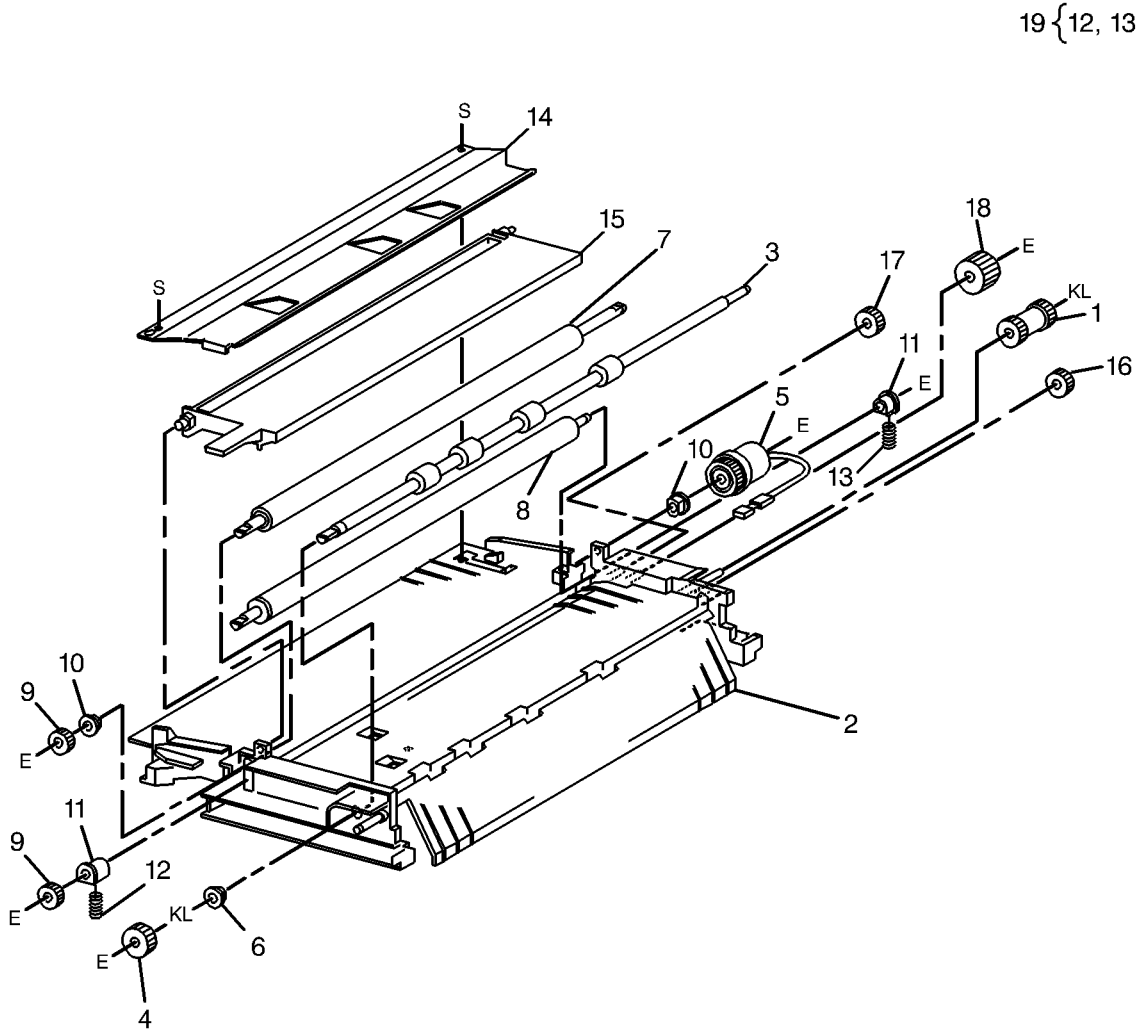
# PL 4.6 Bypass Tray/ Paper Transport (6 of 7)

| Item | Part | Description |
|---|---|---|
| 1 | 001K73551 | Main Paper Handling Frame Assembly |
| 2 | – | Registration Frame (P/O PL 4.6 Item 1) |
| 3 | 162K53280 | Registration Harness |
| 4 | 121K23430 | Preregistration Clutch (REP 8.15) |
| 5 | – | Paper Handler (P/O PL 4.6 Item 1) |
| 6 | – | Bearing (P/O PL 4.6 Item 1) |
| 7 | – | Rear Rail (P/O PL 4.6 Item 1) |
| 8 | – | Paper Handling Sensor Assembly (P/O PL 4.6 Item 1) |
| 9 | – | Sensor Bracket (P/O PL 4.6 Item 1, PL 4.6 Item 8) |
| 10 | 130E82650 | Registration Sensor, OHP Sensor |
| 11 | – | Gear (P/O PL 4.6 Item 1, PL 4.6 Item 8) |



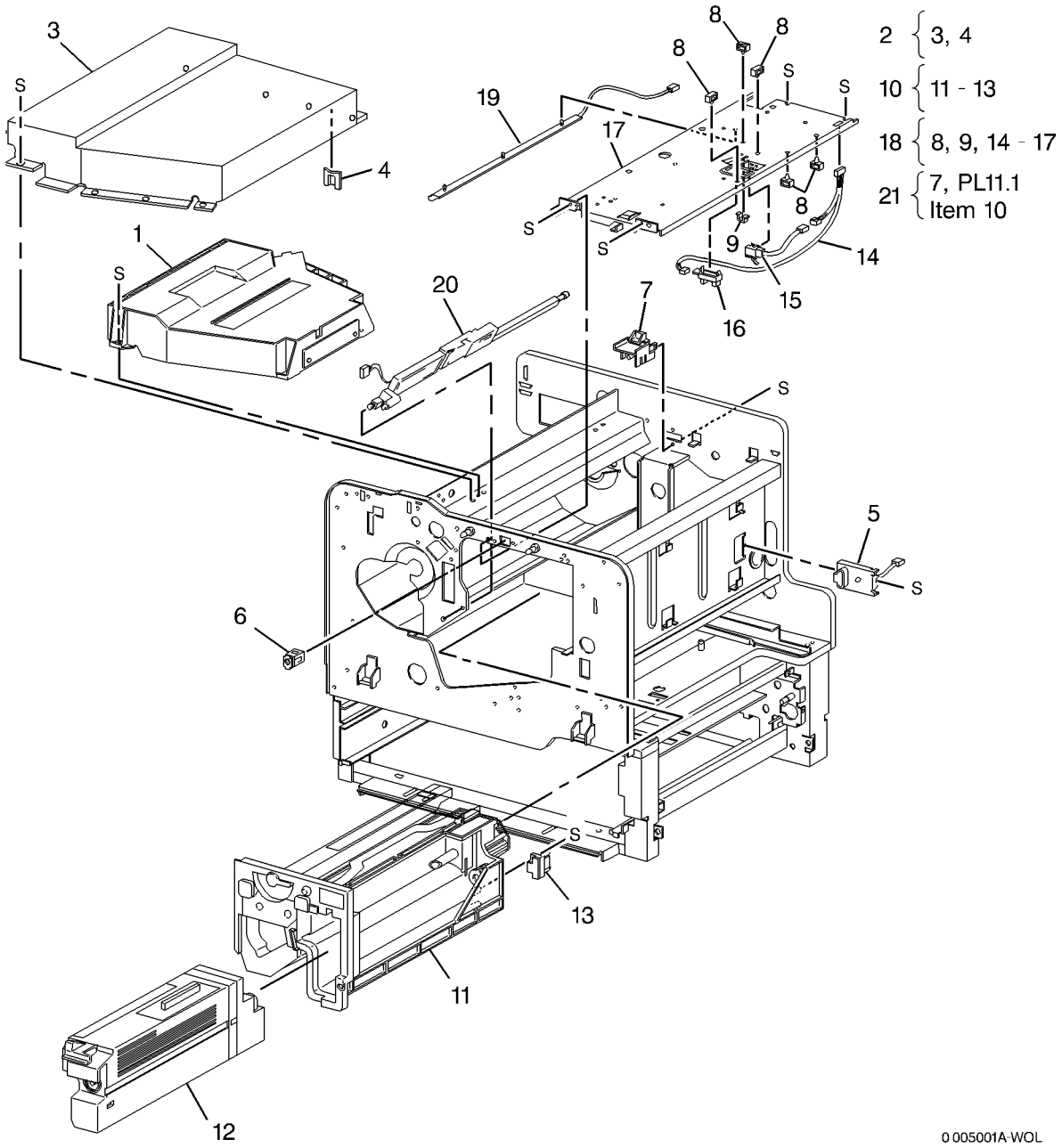
# PL 4.7 Bypass Tray/ Paper Transport (7 of 7)

| Item | Part | Description |
|---|---|---|
| 1 | – | Gear W-20 (P/O PL 4.6 Item 1) |
| 2 | – | Registration Frame (P/O PL 4.6 Item 1) |
| 3 | 059K14400 | Preregistration Roll (REP 8.16) |
| 4 | – | Gear (P/O PL 4.6 Item 1) |
| 5 | 121K23430 | Registration Clutch (REP 8.17) |
| 6 | – | Bearing (P/O PL 4.6 Item 1) |
| 7 | 059K14380 | Registration Rubber Roll (REP 8.18) |
| 8 | – | Registration Metal Roll |
| 9 | – | Gear (P/O PL 4.6 Item 1) |
| 10 | – | Bearing (P/O PL 4.6 Item 1) |
| 11 | – | Bearing (P/O PL 4.6 Item 1) |
| 12 | – | Front Spring (P/O PL 4.6 Item 1, PL 4.7 Item 19) |
| 13 | – | Rear Spring (P/O PL 4.6 Item 1, PL 4.7 Item 19) |
| 14 | 054E15200 | Upper Registration Chute |
| 15 | 054E15670 | Lower Registration Chute |
| 16 | – | Gear 16 (P/O PL 4.6 Item 1) |
| 17 | – | Gear 24 (P/O PL 4.6 Item 1) |
| 18 | – | Gear 26 (P/O PL 4.6 Item 1) |
| 19 | 600K68610 | Registration Spring Kit |



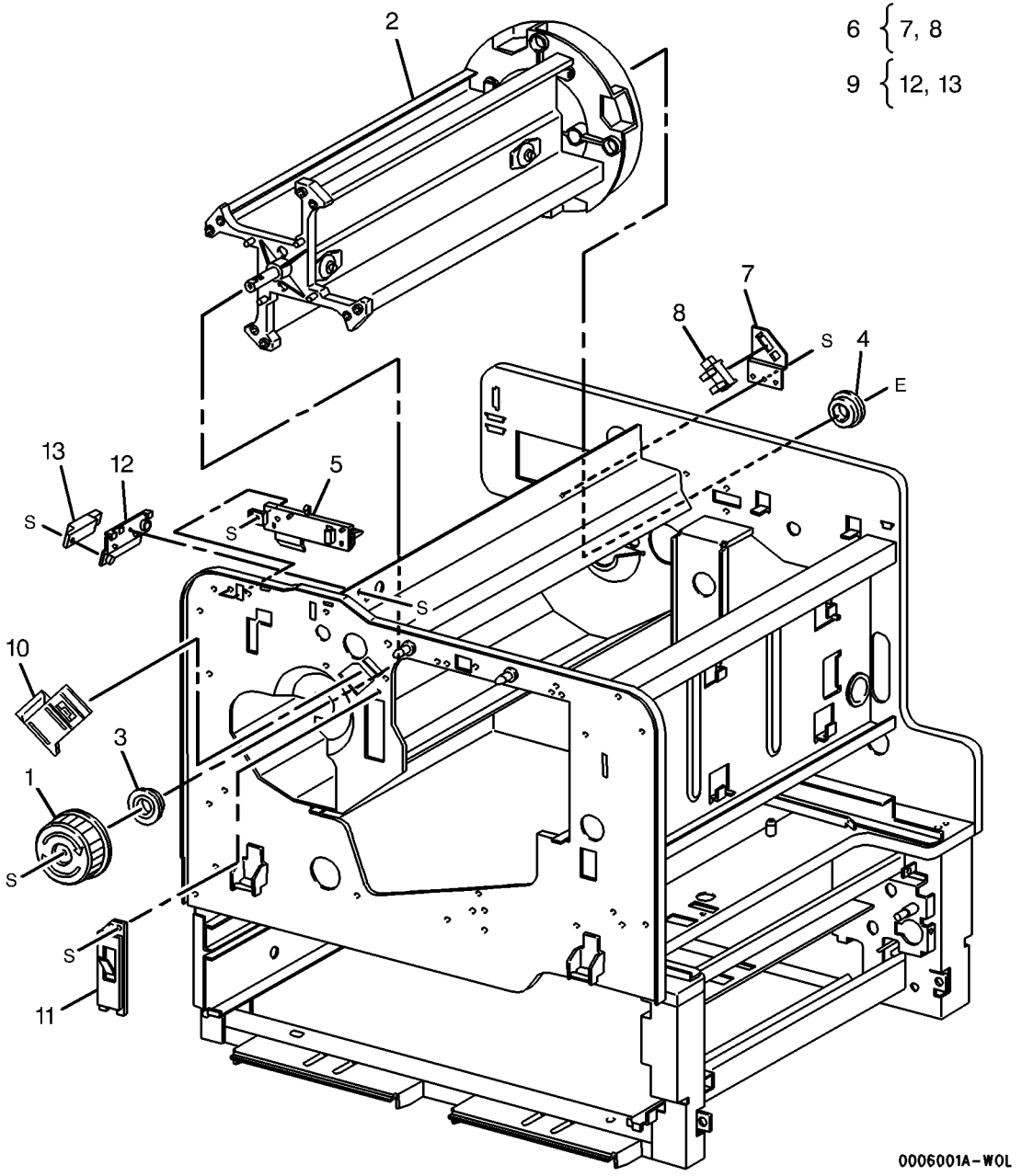
# PL 5.1 Xerographics

| Item | Part | Description |
|---|---|---|
| 1 | 062K09721 | ROS (REP 9.3) |
| 2 | – | ROS Cover Assembly (Not Spared) |
| 3 | – | ROS Cover (Not Spared) |
| 4 | – | Saddle Bushing (Not Spared) |
| 5 | 113K81450 | Customer Replaceable Unit Module (CRUM) Connector |
| 6 | 026K80571 | Receptacle |
| 7 | – | Bias Charge Roll Connector (Not Spared) |
| 8 | – | Rail Clamp-2 (Not Spared) |
| 9 | – | Rail Clamp-1 (Not Spared) |
| 10 | – | Copy/Print Cartridge (REF: Section 6) (REP 9.1) |
| 11 | – | Xerographics Cartridge (P/O PL 5.1 Item 10) |
| 12 | – | Waste Container (REF: Section 6) (REP 9.2) |
| 13 | 160K81230 | CRUM (P/O PL 5.1 Item 10) (Phaser 790) |
| 14 | – | Harness (Not Spared) |
| 15 | 130E82980 | Toner Box Sensor (REP 9.7) |
| 16 | 130E91010 | Waste Toner Sensor (REP 9.6) |
| 17 | – | Locating Rail (Not Spared) (REP 9.5) |
| 18 | – | Locating Rail Assembly (Not Spared) |
| 19 | 122K93100 | Erase Lamp (REP 9.8) |
| 20 | 130K60440 | ADC Sensor (REP 9.4) |
| 21 | 600K68620 | BCR Connecter Kit |



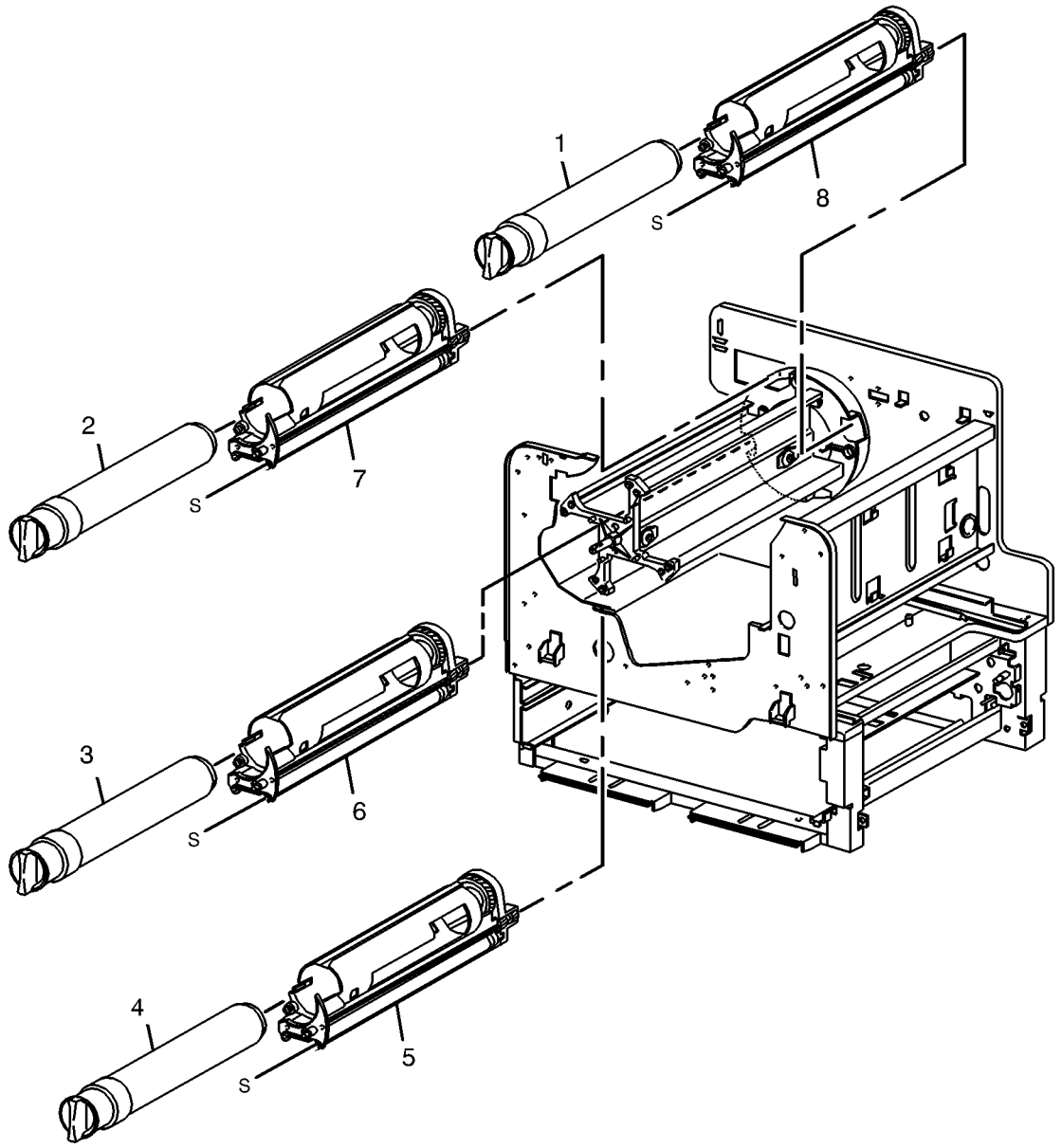
# PL 6.1 Development (1 of 2)

| Item | Part | Description |
|---|---|---|
| 1 | 003K84303 | Rotary Knob |
| 2 | – | Rotary Frame (Not Spared) (REP 9.12 ADJ 9.1) |
| 3 | – | Rotary Front Bearing (Not Spared) |
| 4 | – | Rotary Rear Bearing (Not Spared) |
| 5 | 600K69091 | Rotary Latch |
| 6 | – | Rotary Sensor Assembly (Not Spared) |
| 7 | – | Rotary Sensor Plate (Not Spared) |
| 8 | 130E83060 | Rotary Sensor (REP 9.11) |
| 9 | – | Cartridge Sensor Assembly (Not Spared) |
| 10 | – | Developer Discharge Holder (Not Spared) |
| 11 | 600K85301 | Developer Contact Plate |
| 12 | – | Cartridge Sensor Plate (Not Spared) |
| 13 | 130E82830 | Cartridge Sensor (REP 9.13) |



## PL 6.2 Development (2 of 2)

| Item | Part | Description |
|---|---|---|
| 1 | – | Dry Ink Cartridge Y (REF: Section 6) (REP 9.9) |
| 2 | – | Dry Ink Cartridge M (REF: Section 6) (REP 9.9) |
| 3 | – | Dry Ink Cartridge C (REF: Section 6) (REP 9.9) |
| 4 | – | Dry Ink Cartridge K (REF: Section 6) (REP 9.9) |
| 5 | 802K12002 | Developer Housing K (REP 9.10 ADJ 9.1) |
| – | 802K15851 | Developer Housing K (REP 9.10 ADJ 9.1) |
| 6 | 802K12112 | Developer Housing C (REP 9.10 ADJ 9.1) |
| – | 802K15881 | Developer Housing C (REP 9.10 ADJ 9.1) |
| 7 | 802K12082 | Developer Housing M (REP 9.10 ADJ 9.1) |
| – | 802K15871 | Developer Housing M (REP 9.10 ADJ 9.1) |
| 8 | 802K15861 | Developer Housing Y (REP 9.10 ADJ 9.1) |
| – | 802K12052 | Developer Housing Y (REP 9.10 ADJ 9.1) |

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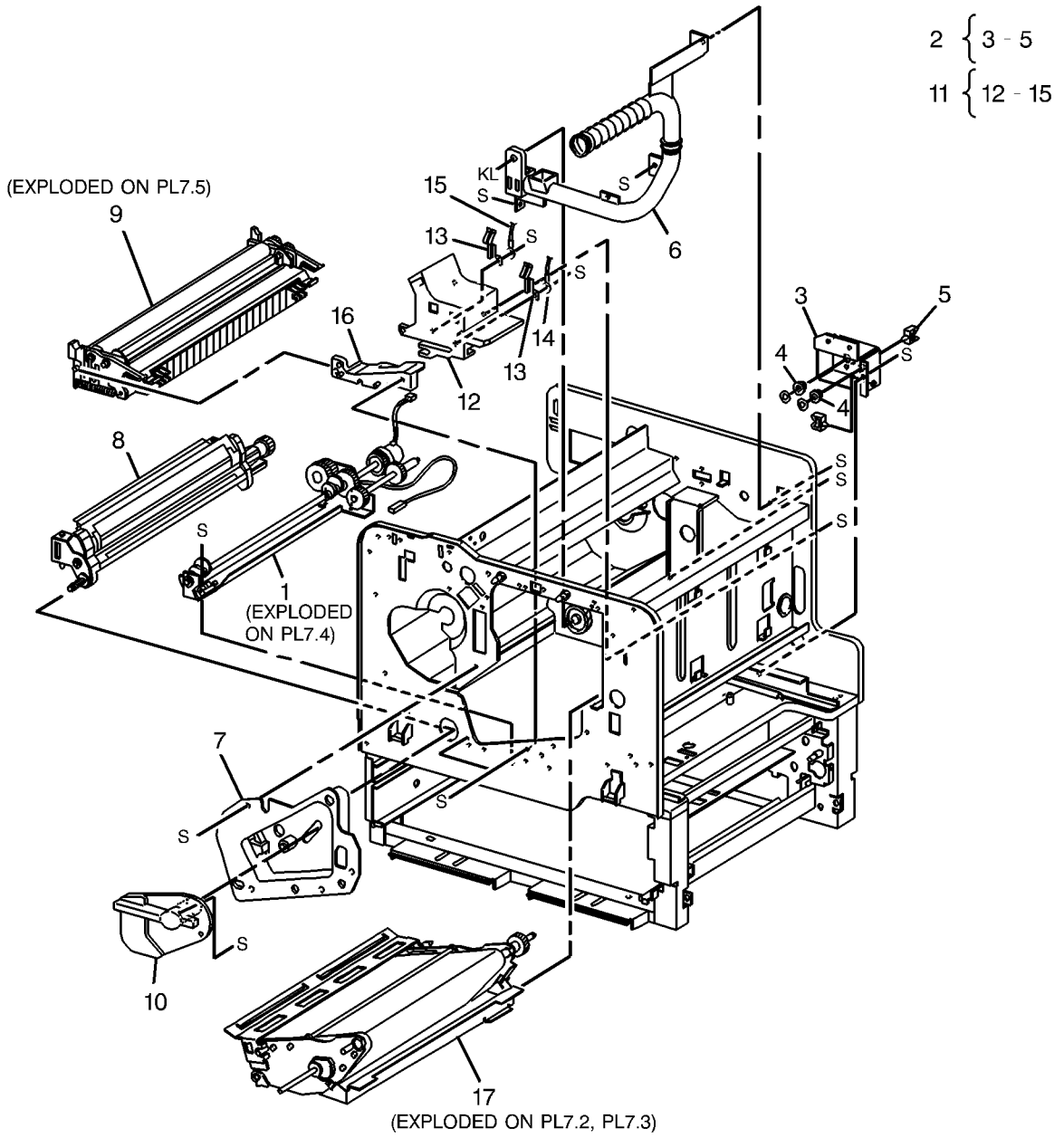
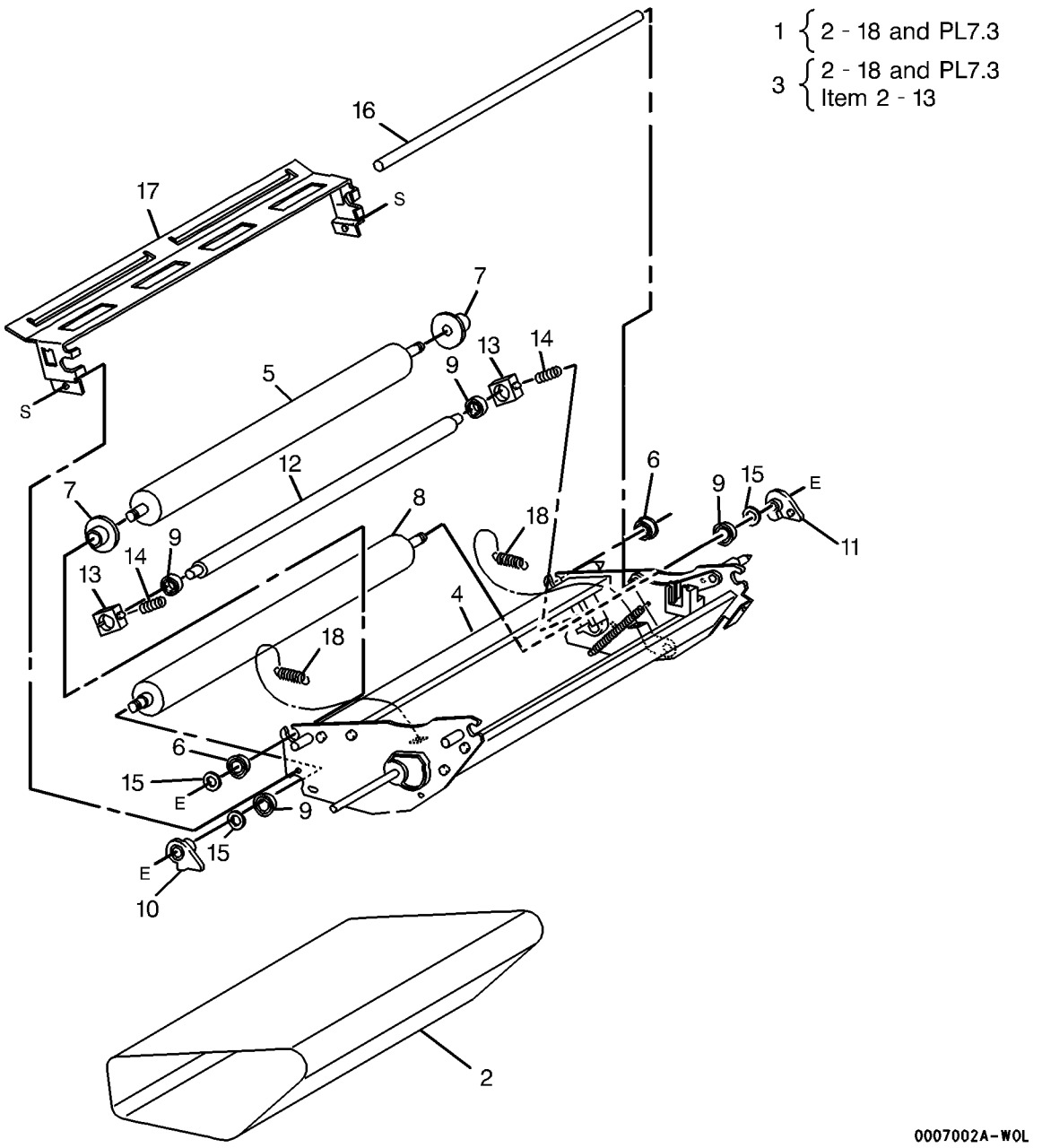
# PL 7.1 IBT (1 of 5)

| Item | Part | Description |
|---|---|---|
| 1 | 008K91550 | BTR 2 Cam Assembly (REP 9.19) |
| 2 | – | BTR Rear Bracket Assembly (Not Spared) |
| 3 | – | Rear Bracket (Not Spared) |
| 4 | – | Rear Bearing (Not Spared) |
| 5 | – | Clamp (Not Spared) |
| 6 | 006K85500 | Auger (REP 9.20) |
| 7 | 802K12301 | Panel |
| 8 | 042K92110 | Belt Cleaner (REP 9.17) |
| 9 | 802K14462 | BTR 2 Assembly (REP 9.18) |
| 10 | 011E09640 | Tension Lever (REP 9.15) |
| 11 | 015K43080 | IBT Rear Bracket Assembly |
| 12 | – | Rear Bracket (P/O PL 7.1 Item 11) |
| 13 | – | Contact Spring (P/O PL 7.1 Item 11) |
| 14 | – | BTR 1 Contact Wire (P/O PL 7.1 Item 11) |
| 15 | – | BTR 2 Contact Wire (P/O PL 7.1 Item 11) |
| 16 | 015K43090 | IBT Front Bracket |
| 17 | 802K17430 | IBT Assembly (REP 9.16) |



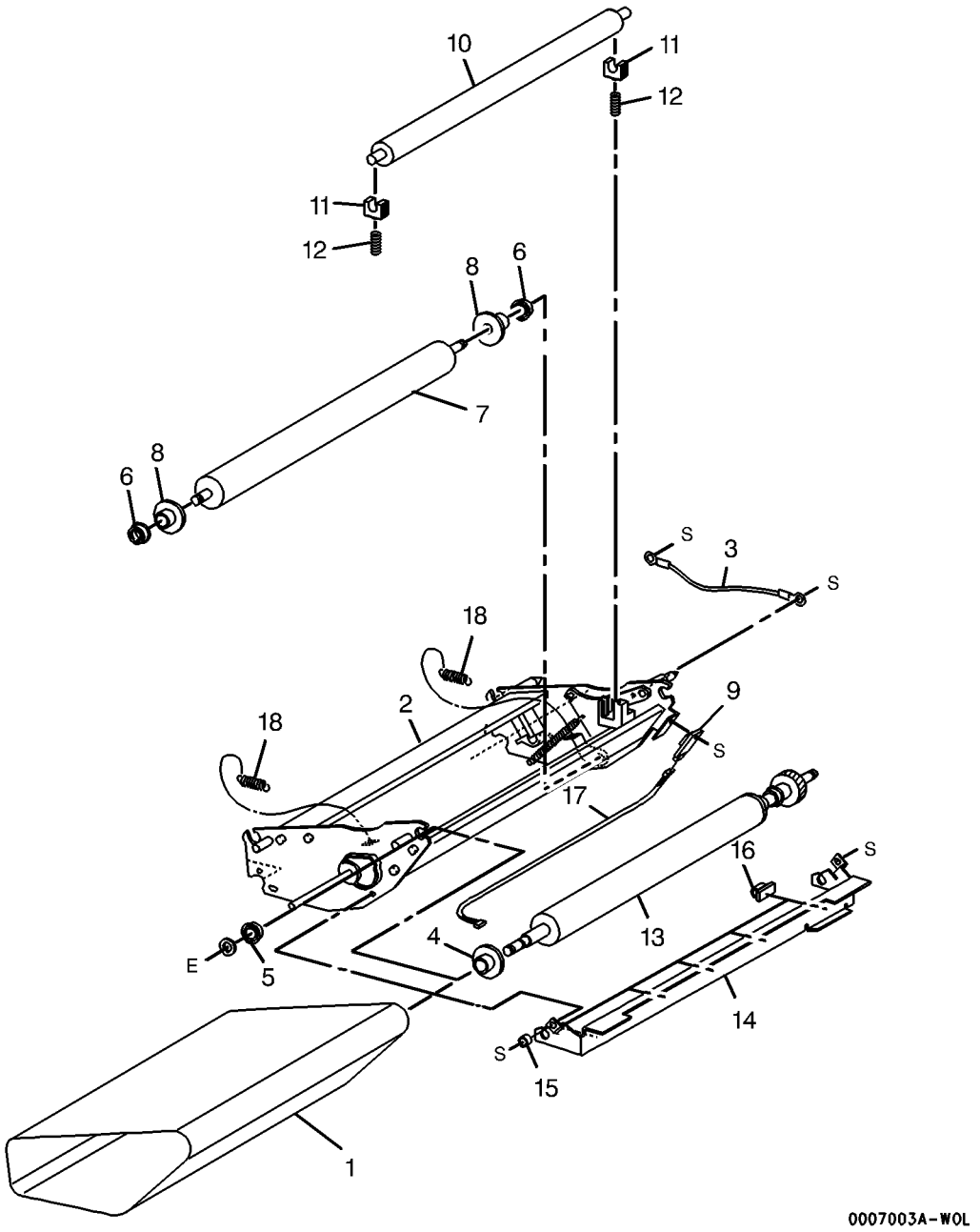
## PL 7.2 IBT (2 of 5)

| Item | Part | Description |
|---|---|---|
| 1 | 802K17430 | IBT Assembly (REP 9.16) |
| 2 | 064K91350 | IBT Belt (REP 9.21) |
| 3 | – | Transfer Mechanism Assembly (P/O PL 7.2 Item 1) |
| 4 | – | IBT Frame (P/O PL 7.2 Item 1 ) |
| 5 | – | IBT Idler Roll (P/O PL 7.2 Item 1) |
| 6 | – | Bearing (P/O PL 7.2 Item 1) |
| 7 | – | Idler Roll Flange (P/O PL 7.2 Item 1) |
| 8 | – | Backup Roll (P/O PL 7.2 Item 1) |
| 9 | – | Contact Roll Bearing (P/O PL 7.2 Item 1) |
| 10 | – | Front Bearing Holder (P/O PL 7.2 Item 1) |
| 11 | – | Rear Bearing Holder (P/O PL 7.2 Item 1) |
| 12 | – | Contact Roll (P/O PL 7.2 Item 1) |
| 13 | – | Bearing Holder (P/O PL 7.2 Item 1) |
| 14 | – | Contact Roll Spring (P/O PL 7.2 Item 1) |
| 15 | – | Spacer (P/O PL 7.2 Item 1) |
| 16 | – | Shaft (P/O PL 7.2 Item 1) |
| 17 | – | Rail (P/O PL 7.2 Item 1) |
| 18 | – | Retard Spring (P/O PL 7.2 Item 1) |



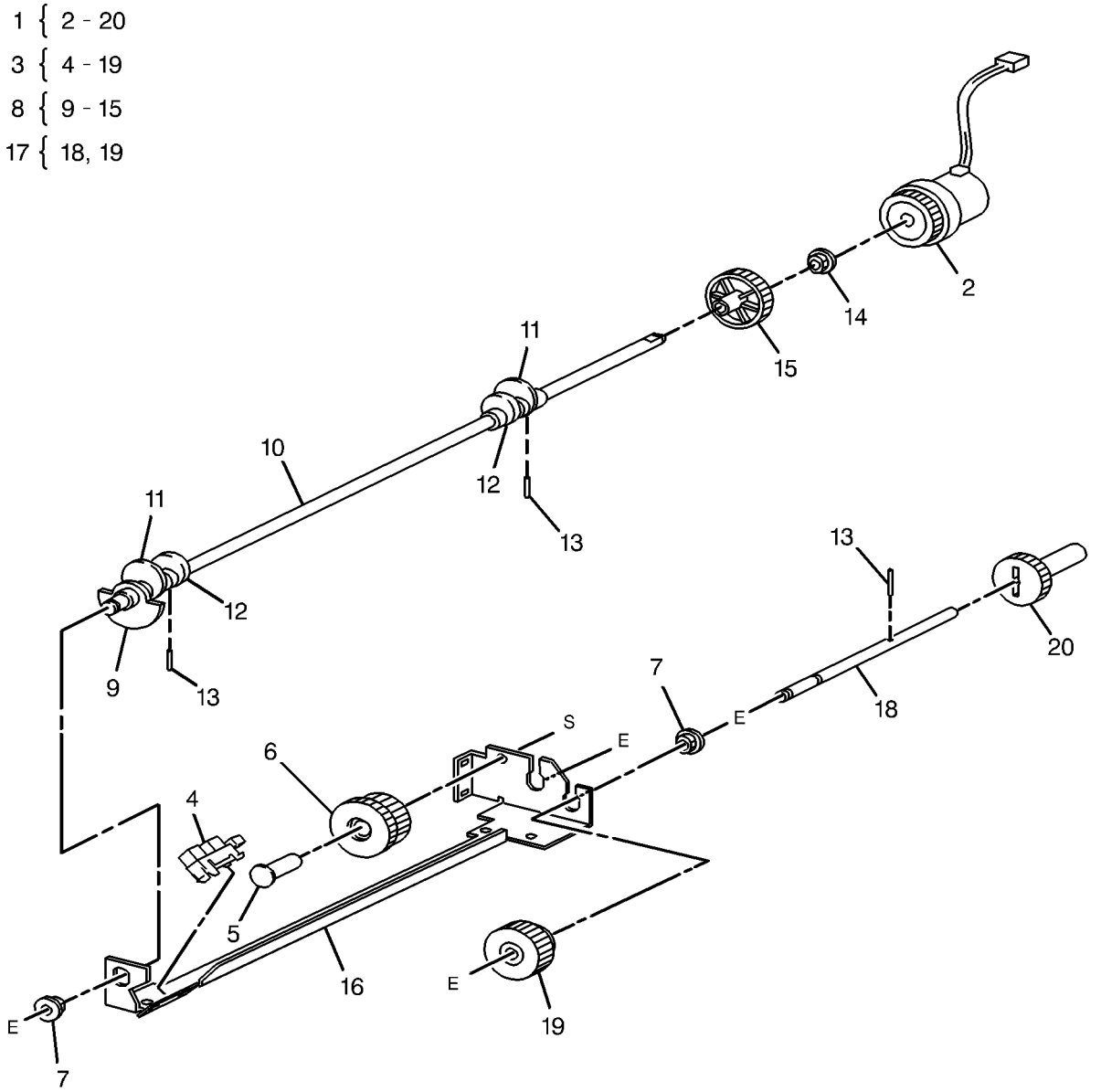
## PL 7.3 IBT (3 of 5)

| Item | Part | Description |
|---|---|---|
| 1 | 064K91350 | IBT Belt |
| 2 | – | IBT Frame (P/O PL 7.2 Item 1) |
| 3 | – | BTR 1 Plate Wire (P/O PL 7.2 Item 1) |
| 4 | – | Drive Roll Flange (P/O PL 7.2 Item 1) |
| 5 | – | Drive Roll Bearing (P/O PL 7.2 Item 1) |
| 6 | – | Tension Roll Bearing (P/O PL 7.2 Item 1) |
| 7 | – | IBT Tension Roll (P/O PL 7.2 Item 1) |
| 8 | – | Tension Roll Flange (P/O PL 7.2 Item 1) |
| 9 | 130E84270 | TR0 Sensor (REP 9.22) |
| 10 | – | BTR 1 (P/O PL 7.2 Item 1) |
| 11 | – | BTR 1 Bearings (P/O PL 7.2 Item 1) |
| 12 | – | Spring (P/O PL 7.2 Item 1) |
| 13 | – | IBT Drive Roll (P/O PL 7.2 Item 1) |
| 14 | – | Rail (P/O PL 7.2 Item 1) |
| 15 | – | Collar (P/O PL 7.2 Item 1) |
| 16 | – | Clamp (P/O PL 7.2 Item 1) |
| 17 | – | Harness (P/O PL 7.2 Item 1) |
| 18 | – | Retard Spring (Not Spared) |



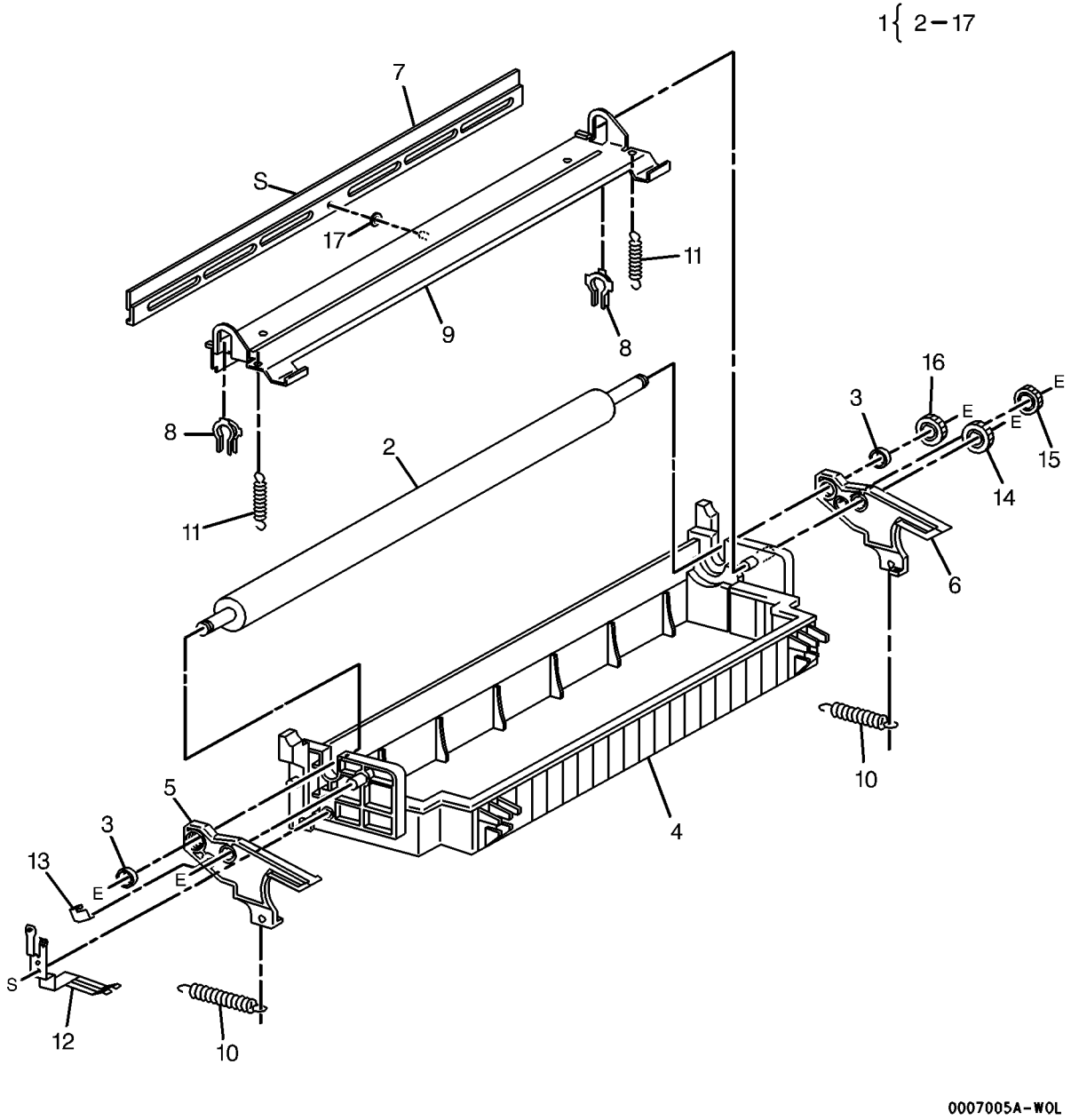
## PL 7.4 IBT (4 of 5)

| Item | Part | Description |
|---|---|---|
| 1 | 008K91550 | BTR 2 Cam Assembly |
| 2 | 121K22730 | BTR 2 Cam Clutch (REP 9.23) |
| 3 | – | Cam Assembly (P/O PL 7.4 Item 1) |
| 4 | – | BTR 2 Cam Sensor (P/O PL 7.4 Item 1) |
| 5 | – | Gear Shaft (P/O PL 7.4 Item 1) |
| 6 | – | Gear (P/O PL 7.4 Item 1) |
| 7 | – | Bearing (P/O PL 7.4 Item 1) |
| 8 | – | BTR Cam Assembly (P/O PL 7.4 Item 1) |
| 9 | – | BTR Actuator (P/O PL 7.4 Item 1) |
| 10 | – | Cam Shaft (P/O PL 7.4 Item 1) |
| 11 | – | Outer BTR Cam (P/O PL 7.4 Item 1) |
| 12 | – | Inner BTR Cam (P/O PL 7.4 Item 1) |
| 13 | – | Pin (P/O PL 7.4 Item 1) |
| 14 | – | Bearing (P/O PL 7.4 Item 1) |
| 15 | – | Gear (P/O PL 7.4 Item 1) |
| 16 | – | Bracket (P/O PL 7.4 Item 1) |
| 17 | – | Torque Gear Assembly (P/O PL 7.4 Item 1) |
| 18 | – | Gear Shaft (P/O PL 7.4 Item 1) |
| 19 | – | Torque Gear (P/O PL 7.4 Item 1) |
| 20 | – | Gear (P/O PL 7.4 Item 1) |



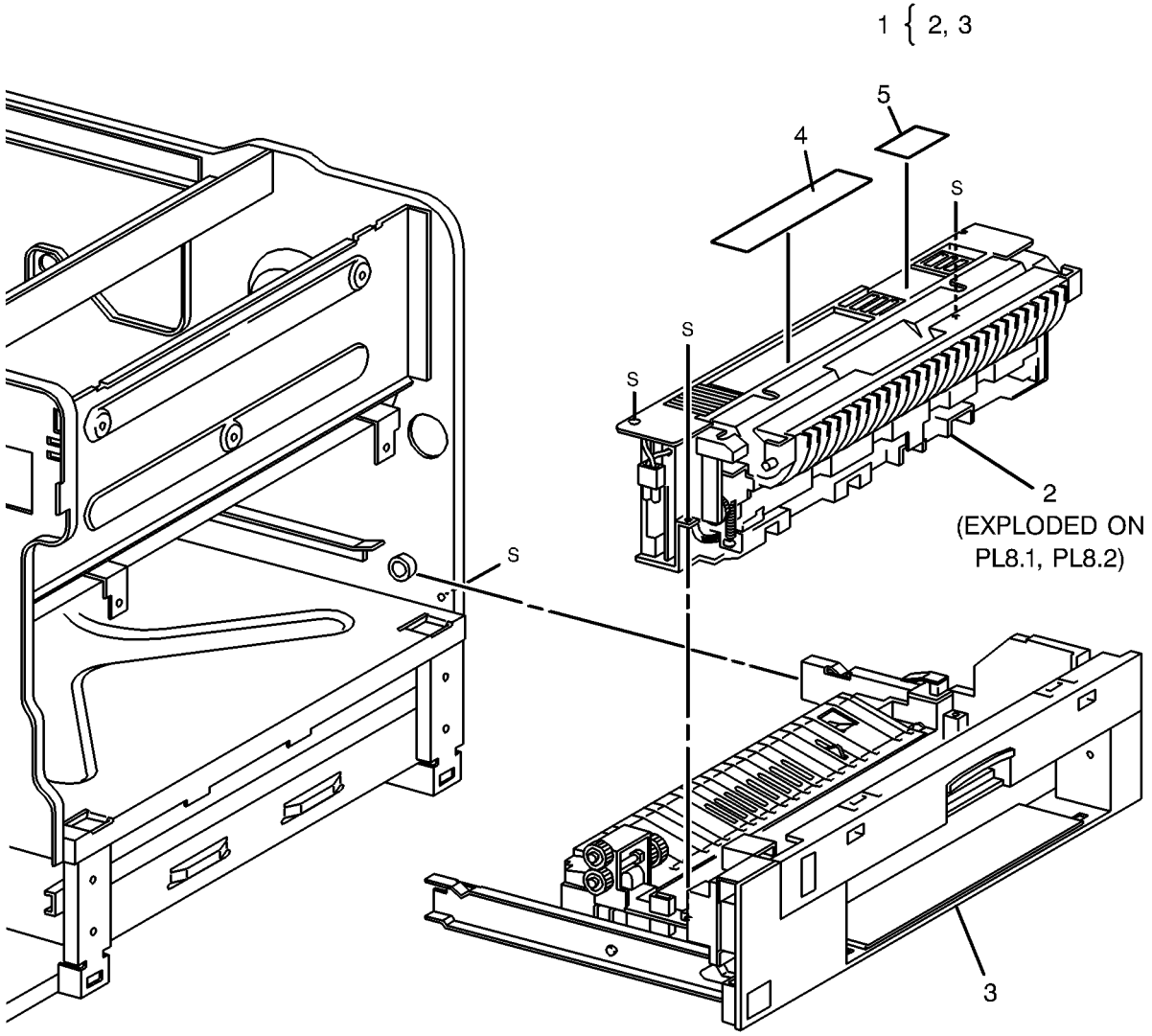
## PL 7.5 IBT (5 of 5)

| Item | Part | Description |
|---|---|---|
| 1 | 802K14462 | BTR 2 Assembly |
| 2 | – | BTR 2 (P/O PL 7.5 Item 1) |
| 3 | – | Bearing (P/O PL 7.5 Item 1) |
| 4 | – | BTR Housing (P/O PL 7.5 Item 1) |
| 5 | – | Front Arm (P/O PL 7.5 Item 1) |
| 6 | – | Rear Arm (P/O PL 7.5 Item 1) |
| 7 | – | BTR 2 Cleaner (P/O PL 7.5 Item 1) |
| 8 | – | Support Bearing (P/O PL 7.5 Item 1) |
| 9 | – | Support Plate (P/O PL 7.5 Item 1) |
| 10 | – | BTR Spring (P/O PL 7.5 Item 1) |
| 11 | – | Cleaner Spring (P/O PL 7.5 Item 1) |
| 12 | – | Ground Contact Spring (P/O PL 7.5 Item 1) |
| 13 | – | Ground Contact Plate (P/O PL 7.5 Item 1) |
| 14 | – | Gear (P/O PL 7.5 Item 1) |
| 15 | – | Gear (P/O PL 7.5 Item 1) |
| 16 | – | Gear (P/O PL 7.5 Item 1) |
| 17 | – | Insulator (P/O PL 7.5 Item 1) |



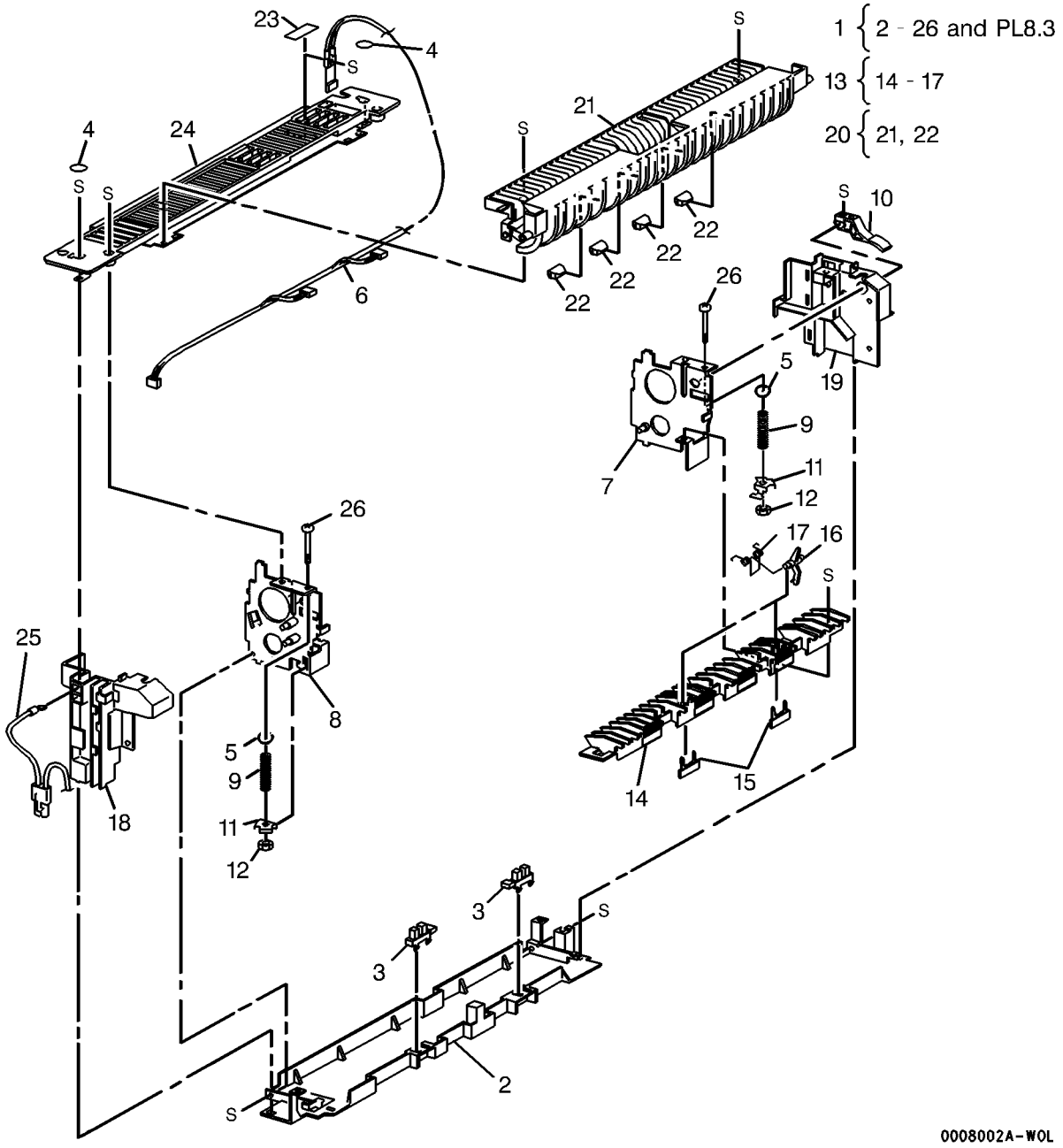
# PL 8.1 Fusing (1 of 7)

| Item | Part | Description |
|---|---|---|
| 1 | – | Fuser Assembly (Not Spared) (REP 10.1) |
| 2 | 600K85411 | Main Fuser 110v |
| – | 600K85421 | Main Fuser 220v |
| 3 | 050K43340 | Fuser Tray 220v |
| – | 050K43330 | Fuser Tray 110v |
| 4 | – | Jam Removal Label (Not Spared) |
| 5 | – | Caution Label (Not Spared) |



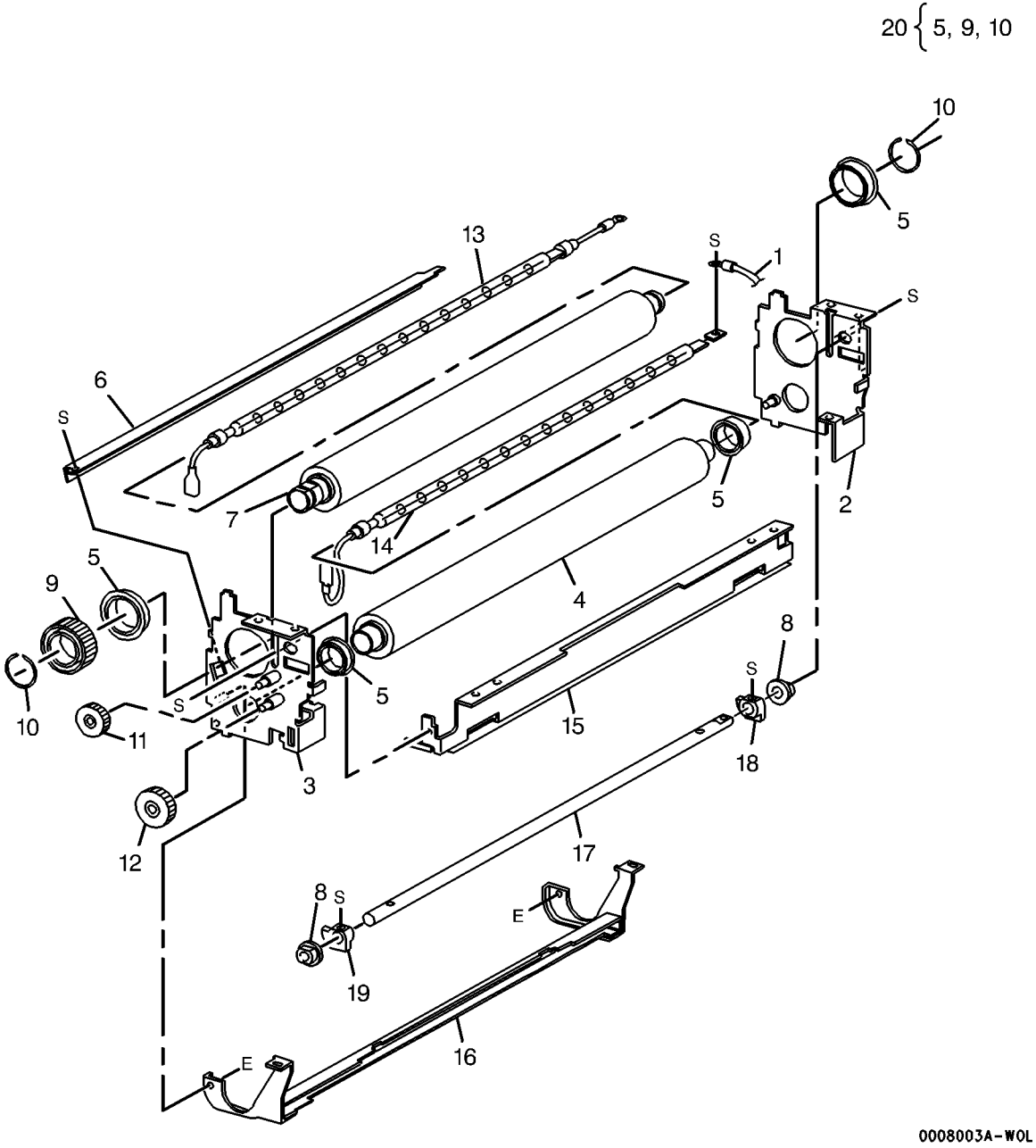
## PL 8.2 Fusing (2 of 7)

| Item | Part | Description |
|---|---|---|
| 1 | 600K85411 | Main Fuser Assembly 110v (REP 10.2 ADJ 10.1) |
| – | 600K85421 | Main Fuser Assembly 220v (REP 10.2) |
| 2 | – | Bottom Plate (P/O PL 8.2 Item 1) |
| 3 | 130E81970 | Front Fuser Exit Sensor, Rear Fuser Exit Sensor (REP 10.8 REP 10.9) |
| 4 | – | Heater Seal (P/O PL 8.2 Item 1) |
| 5 | – | Washer (P/O PL 8.2 Item 1) |
| 6 | 130K60721 | Temperature Sensor (REP 10.12) |
| 7 | – | Fuser Front Frame (P/O PL 8.2 Item 1) |
| 8 | – | Fuser Rear Frame (P/O PL 8.2 Item 1) |
| 9 | – | Nip Spring (P/O PL 8.2 Item 1) |
| 10 | 003E53300 | Fuser Nip Handle |
| 11 | – | Nip Plate (P/O PL 8.2 Item 1) |
| 12 | – | Nut (P/O PL 8.2 Item 1) |
| 13 | 038K85073 | Lower Guide Assembly (REP 10.7) |
| 14 | – | Exit Lower Guide (P/O PL 8.2 Item 1) |
| 15 | – | Actuator Stopper (P/O PL 8.2 Item 1) |
| 16 | – | Fuser Exit Actuator (P/O PL 8.2 Item 1) |
| 17 | – | Fuser Exit Spring (P/O PL 8.2 Item 1) |
| 18 | – | Fuser Rear Cover (P/O PL 8.2 Item 1) |
| 19 | – | Fuser Front Cover (P/O PL 8.2 Item 1) |
| 20 | 038K85081 | Upper Guide Assembly (REP 10.3) |
| 21 | – | Upper Guide Sub (P/O PL 8.2 Item 1) |
| 22 | 059K15021 | Pinch Rolls |
| 23 | – | Seal (P/O PL 8.2 Item 1) |
| 24 | 600K85430 | Upper Plate (REP 10.4) |
| 25 | – | Heater Wire (P/O PL 8.2 Item 1) |
| 26 | – | Adjusting Screw (P/O PL 8.2 Item 1) |



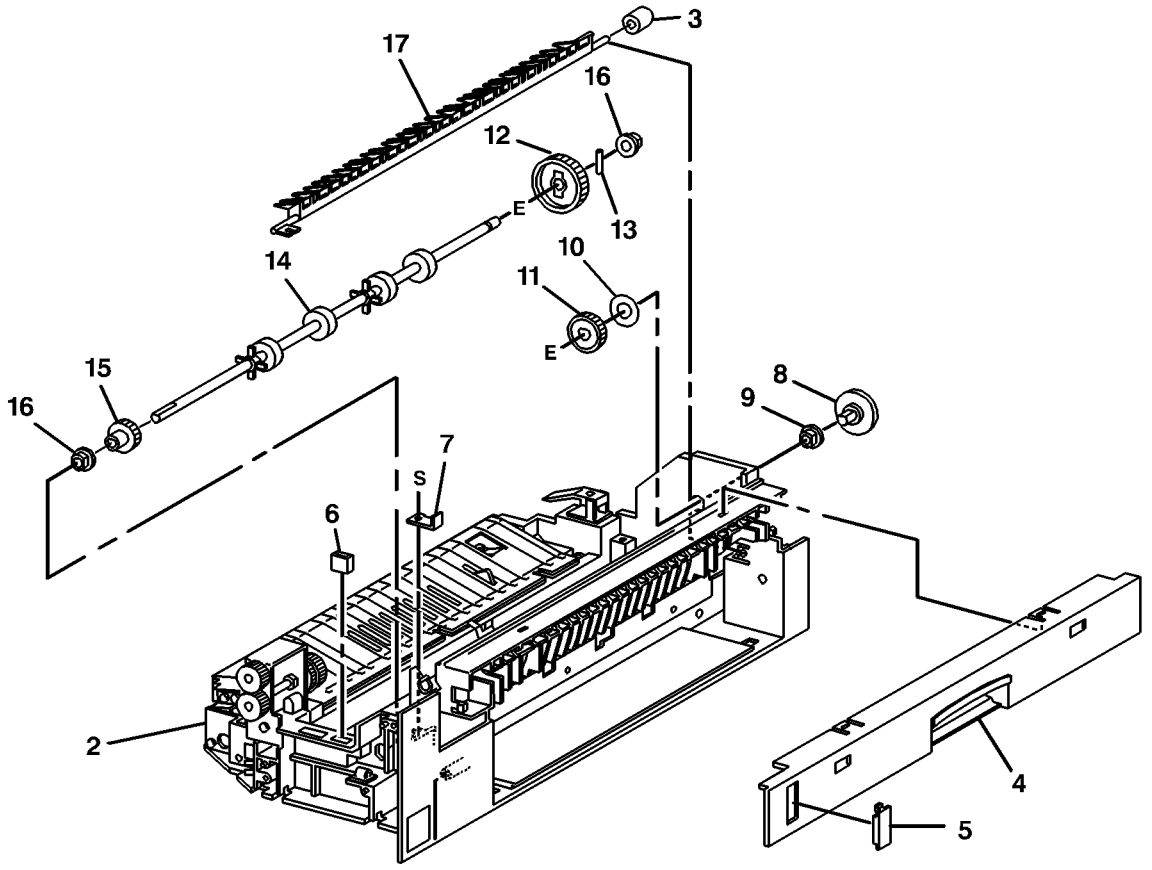
## PL 8.3 Fusing (3 of 7)

| Item | Part | Description |
|---|---|---|
| 1 | – | Heater Wire (P/O PL 8.2 Item 1) |
| 2 | – | Fuser Front Frame (P/O PL 8.2 Item 1) |
| 3 | – | Fuser Rear Frame (P/O PL 8.2 Item 1) |
| 4 | 059K15010 | Pressure Roll (REP 10.11 ADJ 10.1) |
| 5 | 013E87470 | Bearing (2/Kit) (ADJ 10.1) |
| 6 | – | Fuser Entry Plate (P/O PL 8.2 Item 1) |
| 7 | 059K15030 | Heat Roll (ADJ 10.1) |
| 8 | – | Fuser Nip Bearing (P/O PL 8.2 Item 1) |
| 9 | – | Gear (P/O PL 8.2 Item 20) |
| 10 | – | Ring (P/O PL 8.2 Item 20) (2/Kit) |
| 11 | 007E58991 | Gear |
| 12 | 007E60321 | Gear |
| 13 | 126K11330 | Heat Roll Heat Lamp 220v (REP 10.5 ADJ 10.1) |
| – | 126K11290 | Heat Roll Heat Lamp 110v (REP 10.5 ADJ 10.1) |
| 14 | 126K11340 | Pressure Roll Heat Lamp 220v (REP 10.6 ADJ 10.1) |
| – | 126K11300 | Pressure Roll Heat Lamp 110v (REP 10.6 ADJ 10.1) |
| 15 | – | Fuser Baffle (P/O PL 8.2 Item 1) |
| 16 | – | Tie Bracket (P/O PL 8.2 Item 1) |
| 17 | – | Shaft (P/O PL 8.2 Item 1) |
| 18 | – | Front Cam (P/O PL 8.2 Item 1) |
| 19 | – | Rear Cam (P/O PL 8.2 Item 1) |
| 20 | 600K85480 | Heat Roll Hardware Kit (REP 10.10 ADJ 10.1) |



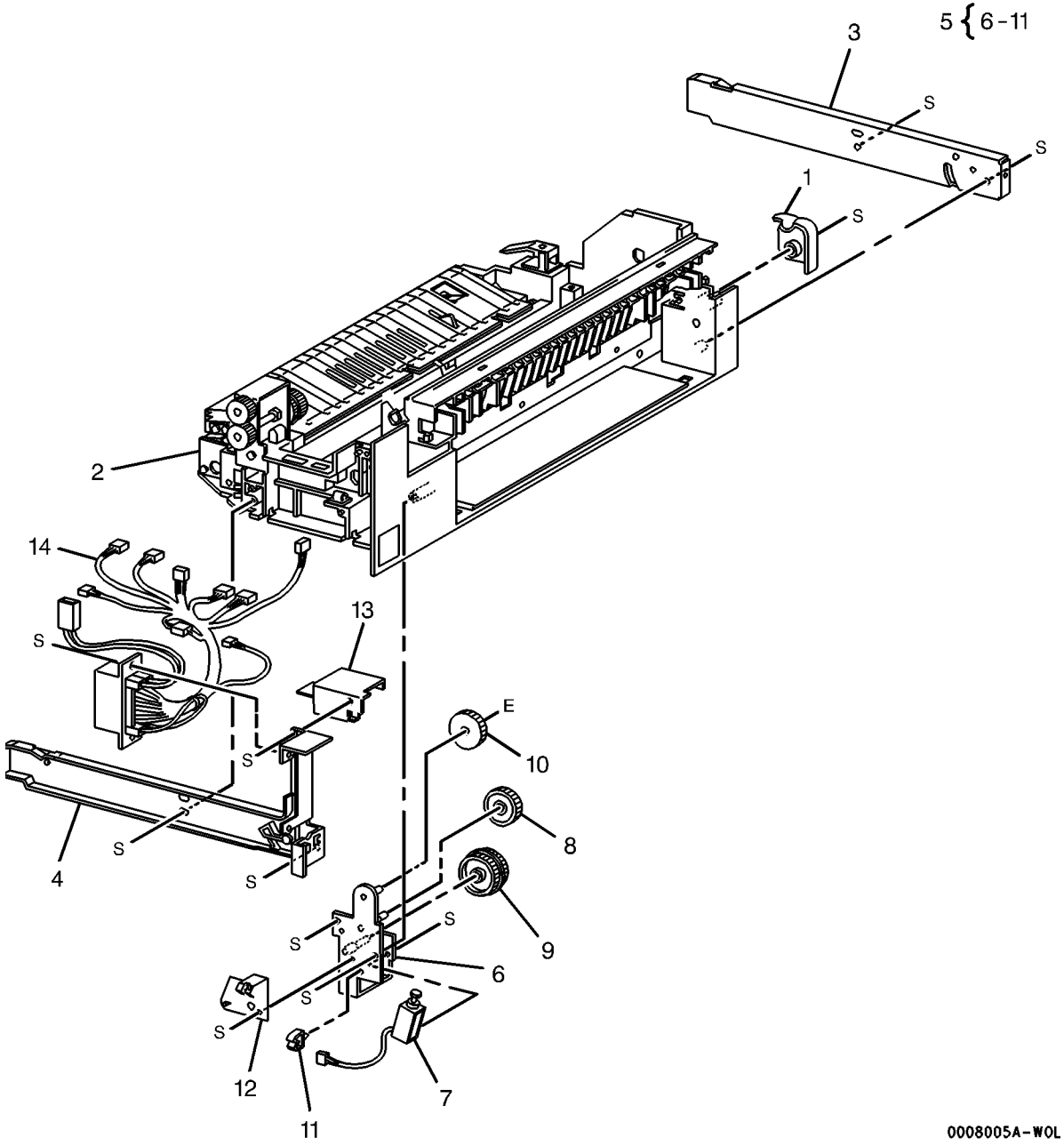
## PL 8.4 Fusing (4 of 7)

| Item | Part | Description |
|---|---|---|
| 1 | 050K43340 | Fuser Tray Assembly 220v (ADJ 10.1) |
| – | 050K43330 | Fuser Tray Assembly 110v (ADJ 10.1) |
| 2 | – | Fuser Tray Subassmebly (P/O PL 8.4 Item 1) |
| 3 | 004E09760 | Damper |
| 4 | 011E10200 | Fuser Tray Handle |
| 5 | – | Fuser Tray Cap (P/O PL 8.4 Item 1) |
| 6 | – | Connector (P/O PL 8.4 Item 1) |
| 7 | – | Rear Exchange Stopper (P/O PL 8.4 Item 1) |
| 8 | 003E39791 | Fuser Knob |
| 9 | – | Fuser Knob Bearing (P/O PL 8.4 Item 1) |
| 10 | – | Fuser Knob Bearing (P/O PL 8.4 Item 1) |
| 11 | 007E51650 | Fuser Knob Gear |
| 12 | 007E51660 | Exit Knob Gear |
| 13 | – | Exit Roll Pin (P/O PL 8.4 Item 1) |
| 14 | 059K14430 | Exit Roll (REP 10.17) |
| 15 | 007E60300 | Exit Gear |
| 16 | – | Exit Bearing (P/O PL 8.4 Item 1) |
| 17 | 054E10561 | Exchange Chute (REP 10.13) |



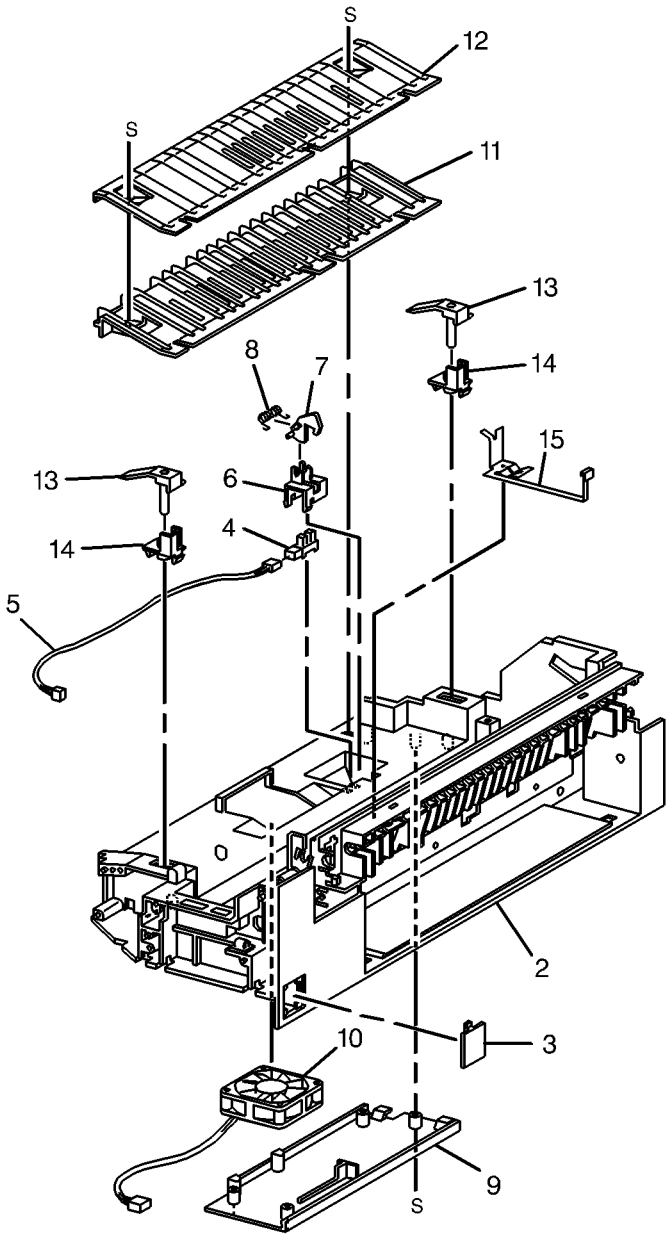
## PL 8.5 Fusing (5 of 7)

| Item | Part | Description |
|---|---|---|
| 1 | – | Front Exchange Stopper (P/O PL 8.4 Item 1) |
| 2 | – | Fuser Tray Subassembly (P/O PL 8.4 Item 1) |
| 3 | – | Fuser Front Rail (P/O PL 8.4 Item 1) |
| 4 | – | Fuser Rear Rail (P/O PL 8.4 Item 1) |
| 5 | 121K21821 | Exchanged Solenoid Assembly |
| 6 | – | Exchange Bracket (P/O PL 8.4 Item 1, PL 8.5 Item 5) |
| 7 | – | Exchange Solenoid (P/O PL 8.4 Item 5, PL 8.5 Item 5) (REP 10.14) |
| 8 | – | Idler Gear (P/O PL 8.4 Item 5, PL 8.5 Item 5) |
| 9 | – | Idler Gear (P/O PL 8.4 Item 5, PL 8.5 Item 5) |
| 10 | – | Idler Gear (P/O PL 8.4 Item 5, PL 8.5 Item 5) |
| 11 | – | Clamp (P/O PL 8.4 Item 5, PL 8.5 Item 5) |
| 12 | – | Ground Contact Spring (P/O PL 8.4 Item 1) |
| 13 | – | Gear Cover (P/O PL 8.4 Item 1) |
| 14 | 162K53250 | Fuser Harness |



## PL 8.6 Fusing (6 of 7)

| Item | Part | Description |
|---|---|---|
| 1 | – | Fuser Tray Subassembly (Not Spared) |
| 2 | – | Fuser Tray (Not Spared) |
| 3 | – | Fuser Tray Cap (Not Spared) |
| 4 | 130E81970 | Fuser Entrance Sensor (REP 10.18) |
| 5 | – | Harness (Not Spared) |
| 6 | – | Sensor Bracket (Not Spared) |
| 7 | – | Actuator (Not Spared) |
| 8 | – | Spring (Not Spared) |
| 9 | – | Bottom Cover (Not Spared) |
| 10 | 127E81620 | Fuser Chute Fan (REP 10.19) |
| 11 | – | Fuser Paper Guide (Not Spared) |
| 12 | – | Horizontal Chute (Not Spared) |
| 13 | 029E30560 | Cleaner Cam Follower |
| 14 | 019E33881 | Holder |
| 15 | – | Ground Contact Spring (Not Spared) |

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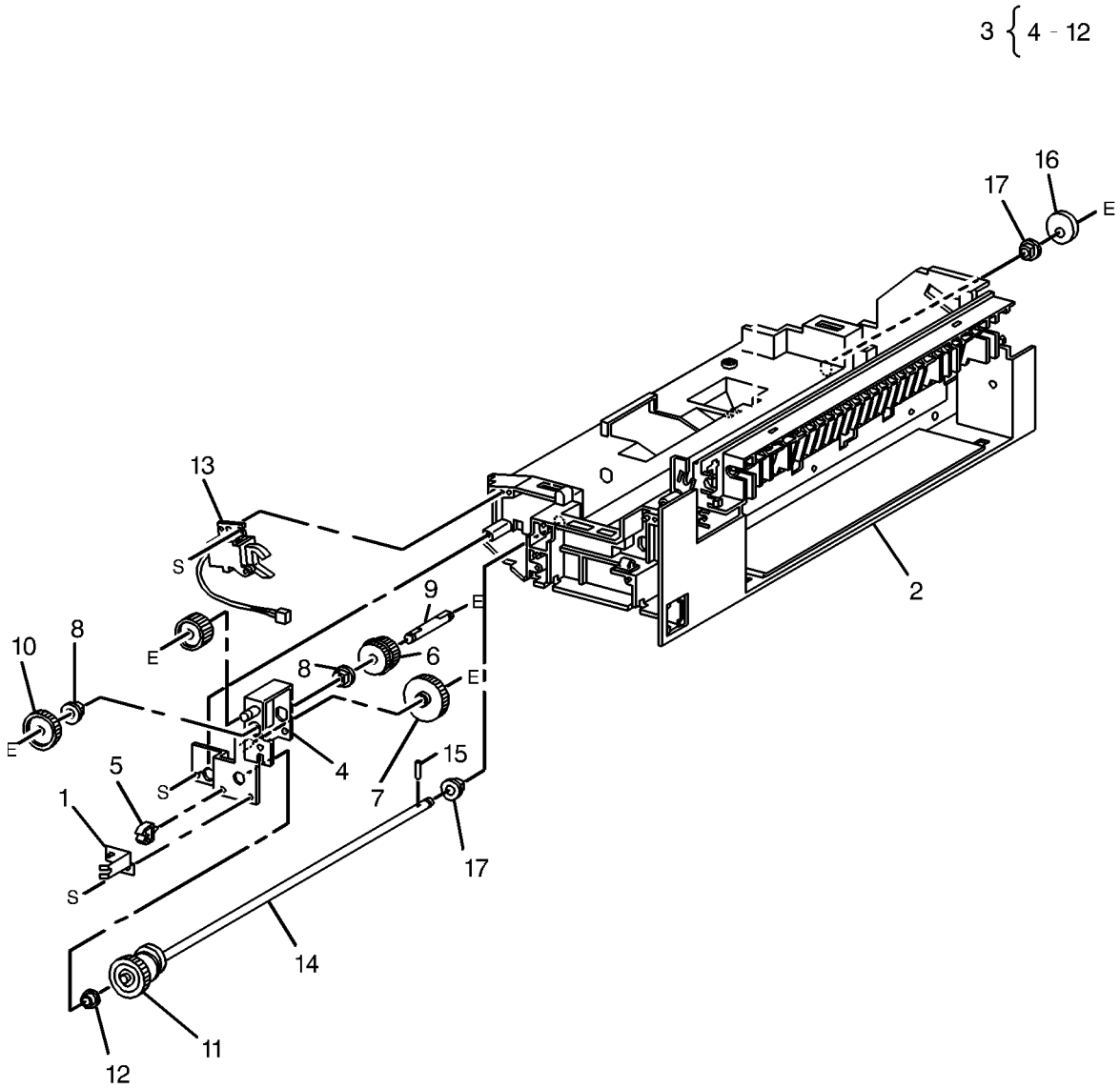
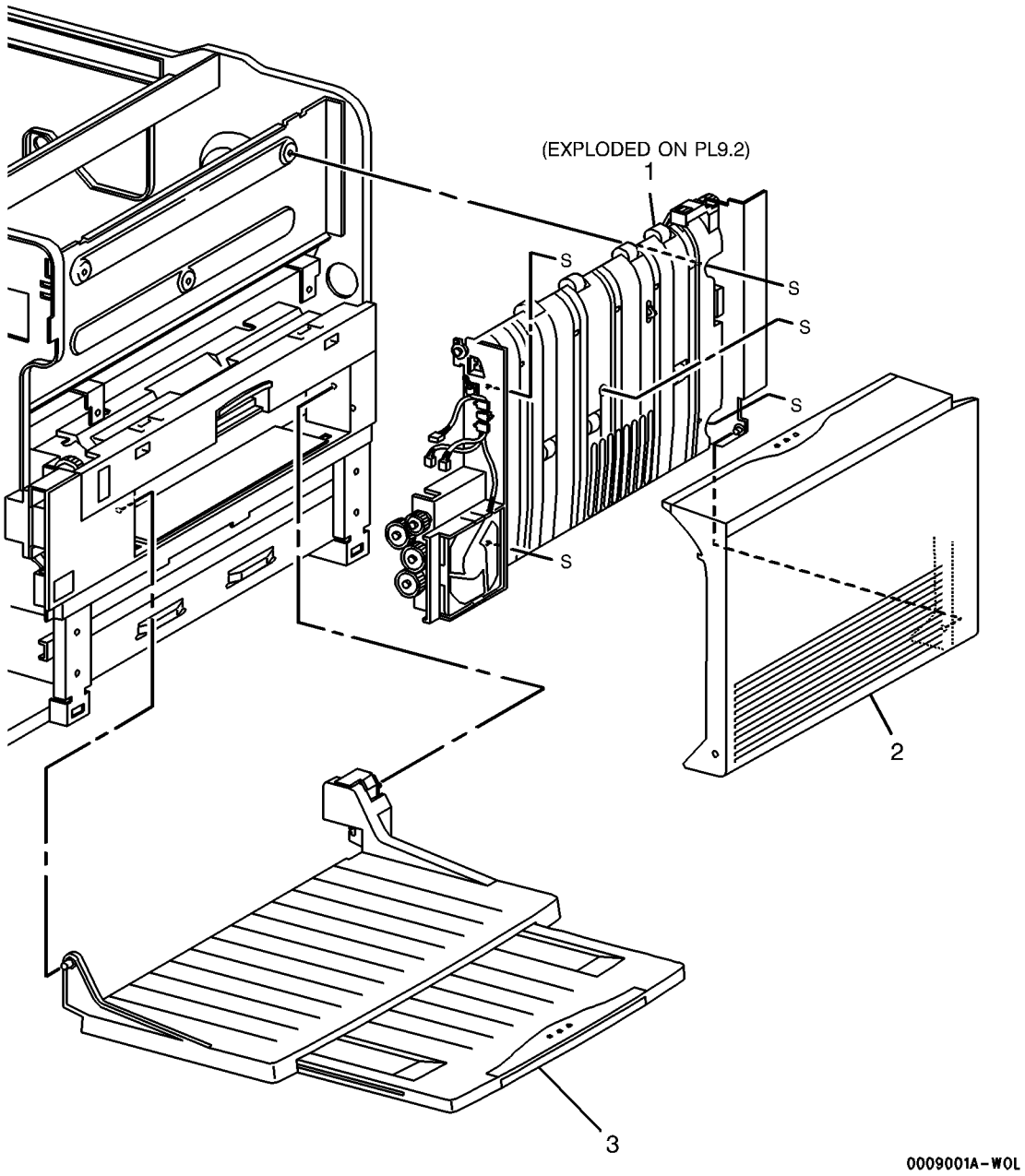
# PL 8.7 Fusing (7 of 7)

| Item | Part | Description |
|---|---|---|
| 1 | – | Ground Contact Spring (Not Spared) |
| 2 | – | Fuser Tray (Not Spared) |
| 3 | 015K49580 | Input Bracket Assembly |
| 4 | – | Front Bracket (P/O PL 8.7 Item 3) |
| 5 | – | Clamp (P/O PL 8.7 Item 3) |
| 6 | – | Gear (P/O PL 8.7 Item 3) |
| 7 | – | Gear (P/O PL 8.7 Item 3) |
| 8 | – | Bearing (P/O PL 8.7 Item 3) |
| 9 | – | Shaft (P/O PL 8.7 Item 3) |
| 10 | – | Gear (P/O PL 8.7 Item 3) |
| 11 | – | Cleaner Cam Gear (P/O PL 8.7 Item 3) |
| 12 | – | Rear Bearing (P/O PL 8.7 Item 3) |
| 13 | 121E87040 | Cleaner Cam Solenoid (REP 10.15) |
| 14 | – | Cleaner Cam Shaft (Not Spared) (REP 10.16) |
| 15 | – | Pin (Not Spared) |
| 16 | – | Cleaner Cam (Not Spared) |
| 17 | – | Front Bearing (Not Spared) |



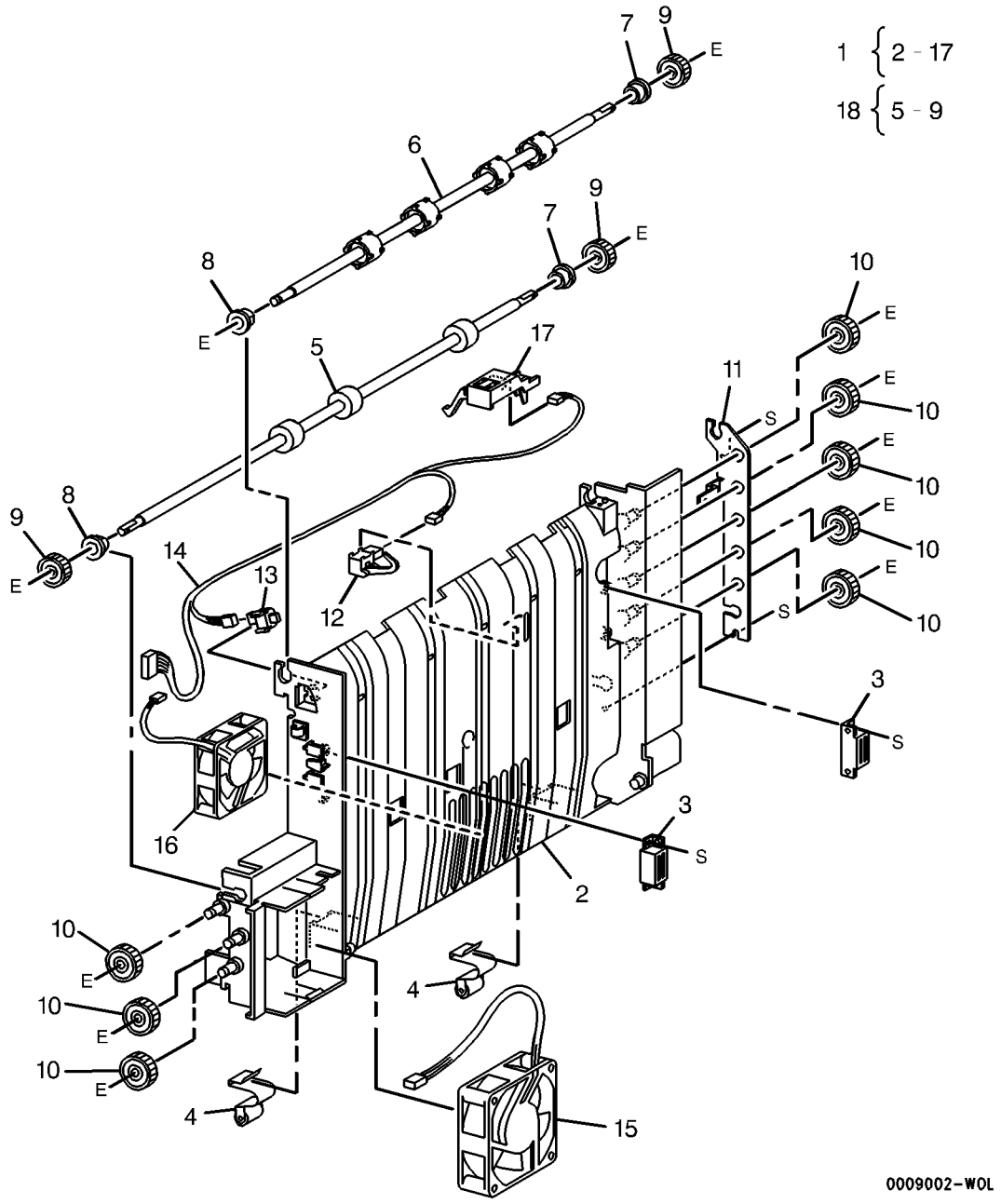
# PL 9.1 Paper Exit (1 of 2)

| Item | Part | Description |
|---|---|---|
| 1 | – | Exit Transport Assembly (Not Spared) (REP 8.40) |
| 2 | 054K17770 | Exit Transport Cover |
| 3 | 050K27592 | Lower Exit Tray |



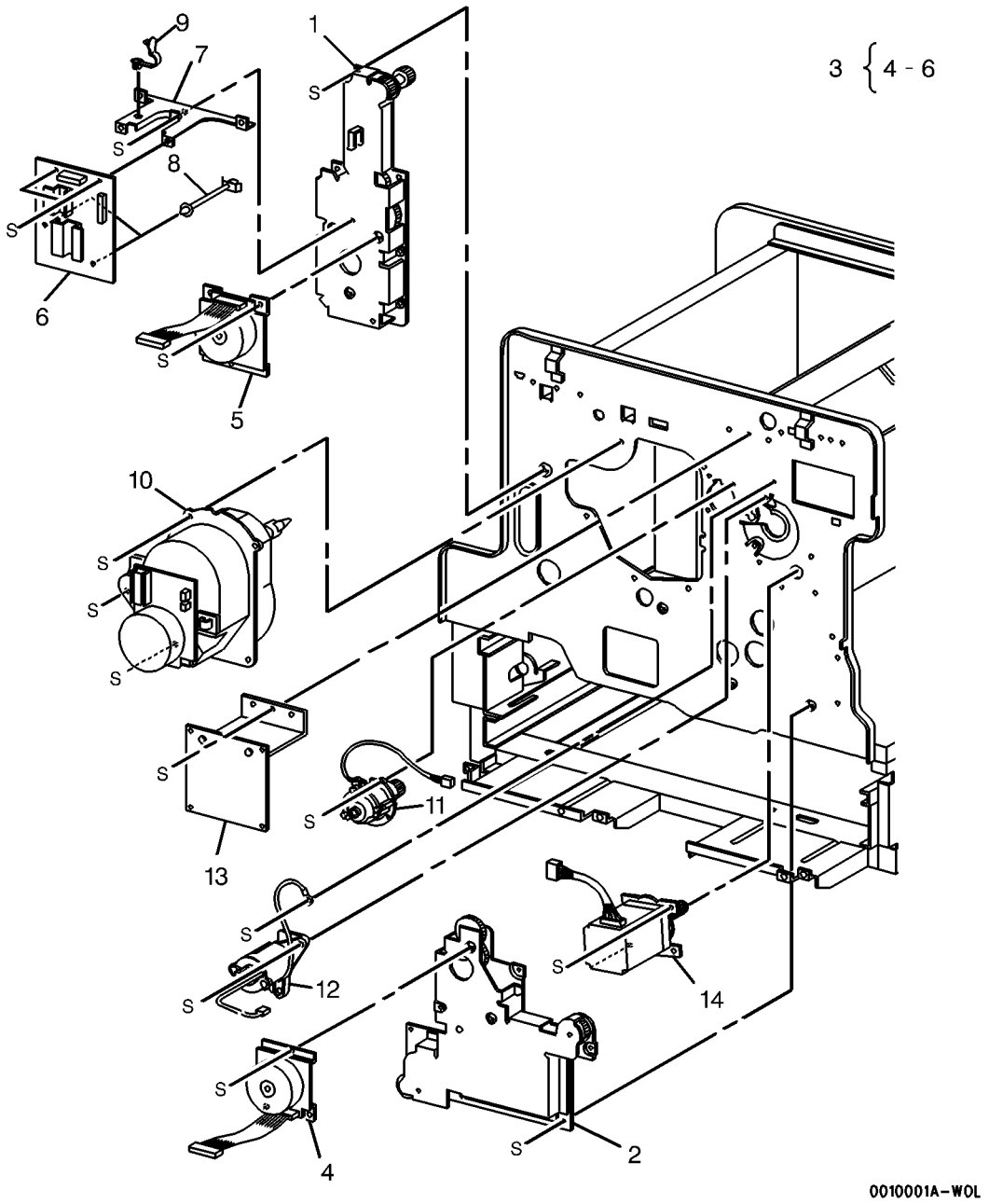
# PL 9.2 Paper Exit (2 of 2)

| Item | Part | Description |
|---|---|---|
| 1 | – | Exit Transport Assembly (Not Spared) |
| 2 | – | Exit Chute (Not Spared) |
| 3 | – | Catch Magnet (Not Spared) |
| 4 | – | Pinch Roll (Not Spared) |
| 5 | – | Lower Exit Roll (P/O PL 9.2 Item 18) |
| 6 | – | Upper Exit Roll (P/O PL 9.2 Item 18) |
| 7 | – | Bearing (P/O PL 9.2 Item 18) (2/Kit) |
| 8 | – | Bearing (P/O PL 9.2 Item 18) (2/Kit) |
| 9 | – | Gear (P/O PL 9.2 Item 18) (3/Kit) |
| 10 | – | Gear (P/O PL 9.2 Item 18) (8/Kit) |
| 11 | – | Front Plate (Not Spared) |
| 12 | 130E82730 | Top Exit Sensor (REP 8.43) |
| 13 | 110E93440 | Exit Chute Interlock (REP 8.42) |
| 14 | – | Harness (Not Spared) |
| 15 | 127E81940 | Fuser Fan |
| 16 | 127E81951 | Exit Chute Fan |
| 17 | 130K61311 | Full Stack Sensor (REP 8.41) |
| 18 | 600K68750 | Exit Upper Roller Kit |



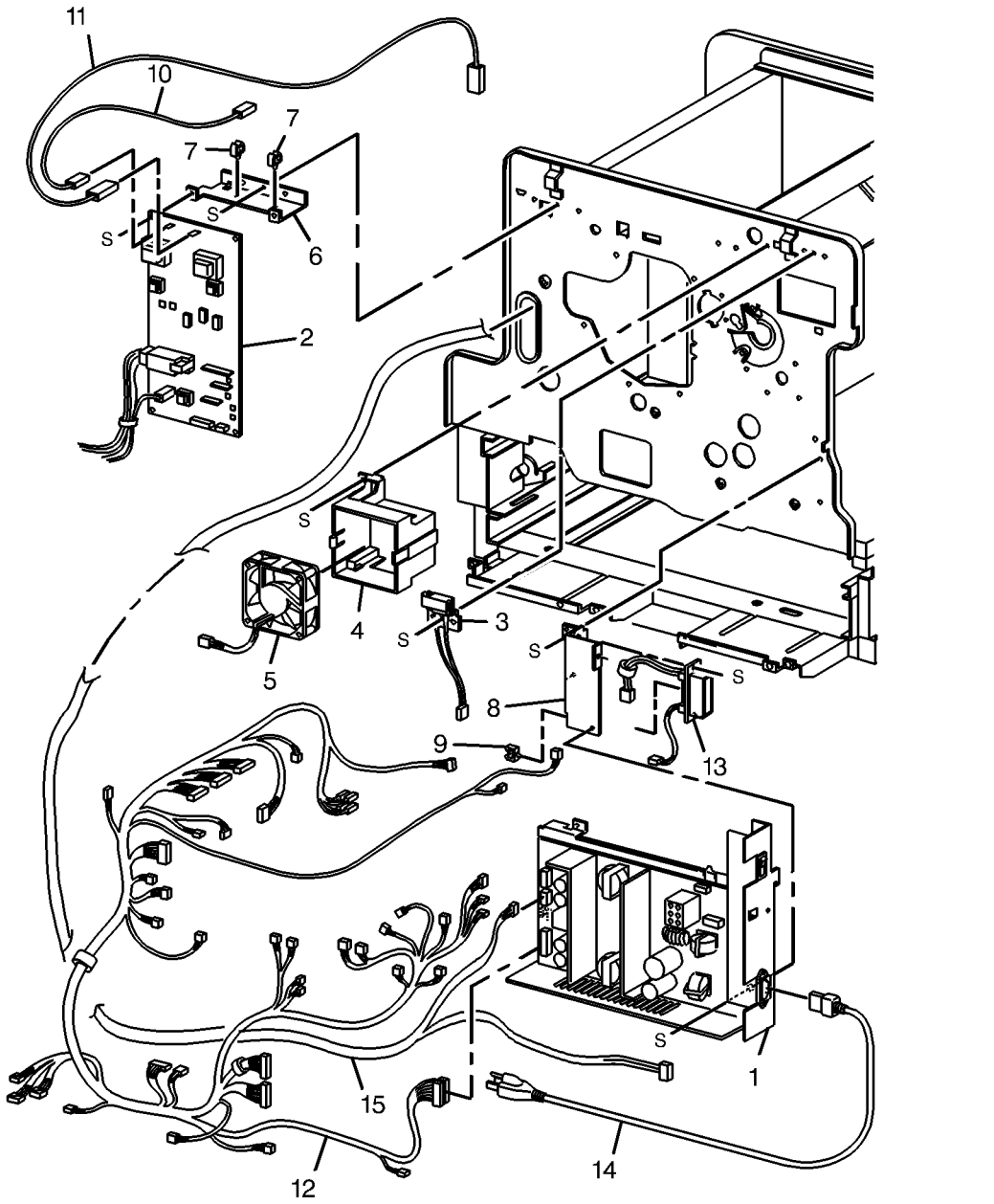
## PL 10.1 Drives

| Item | Part | Description |
|---|---|---|
| 1 | 007K85070 | Paper Handling Drive Unit (REP 4.1) |
| 2 | 007K85080 | Fuser Drive Unit (REP 4.2) |
| 3 | – | Drive Motor Assembly (Not Spared) |
| 4 | 127K25400 | Fuser Motor (REP 4.3) |
| 5 | 127K25410 | Paper Handling Motor (REP 4.4) |
| 6 | 160K56510 | Drive Motor PWB (REP 4.5) |
| 7 | – | Motor PWB Bracket (Not Spared) |
| 8 | – | Motor PWB Support (Not Spared) |
| 9 | – | Clamp (Not Spared) |
| 10 | 127K27450 | Process Drive Unit (REP 4.6) |
| 11 | 121K21141 | Developer Clutch (REP 4.10) |
| 12 | 121K23260 | Dispense Clutch (REP 4.9) |
| 13 | 160K61490 | Rotary Motor PWB (REP 4.8) |
| 14 | 127K28300 | Rotary Motor 110V (REP 4.7) |
| – | 127K31700 | Rotary Motor 220V |



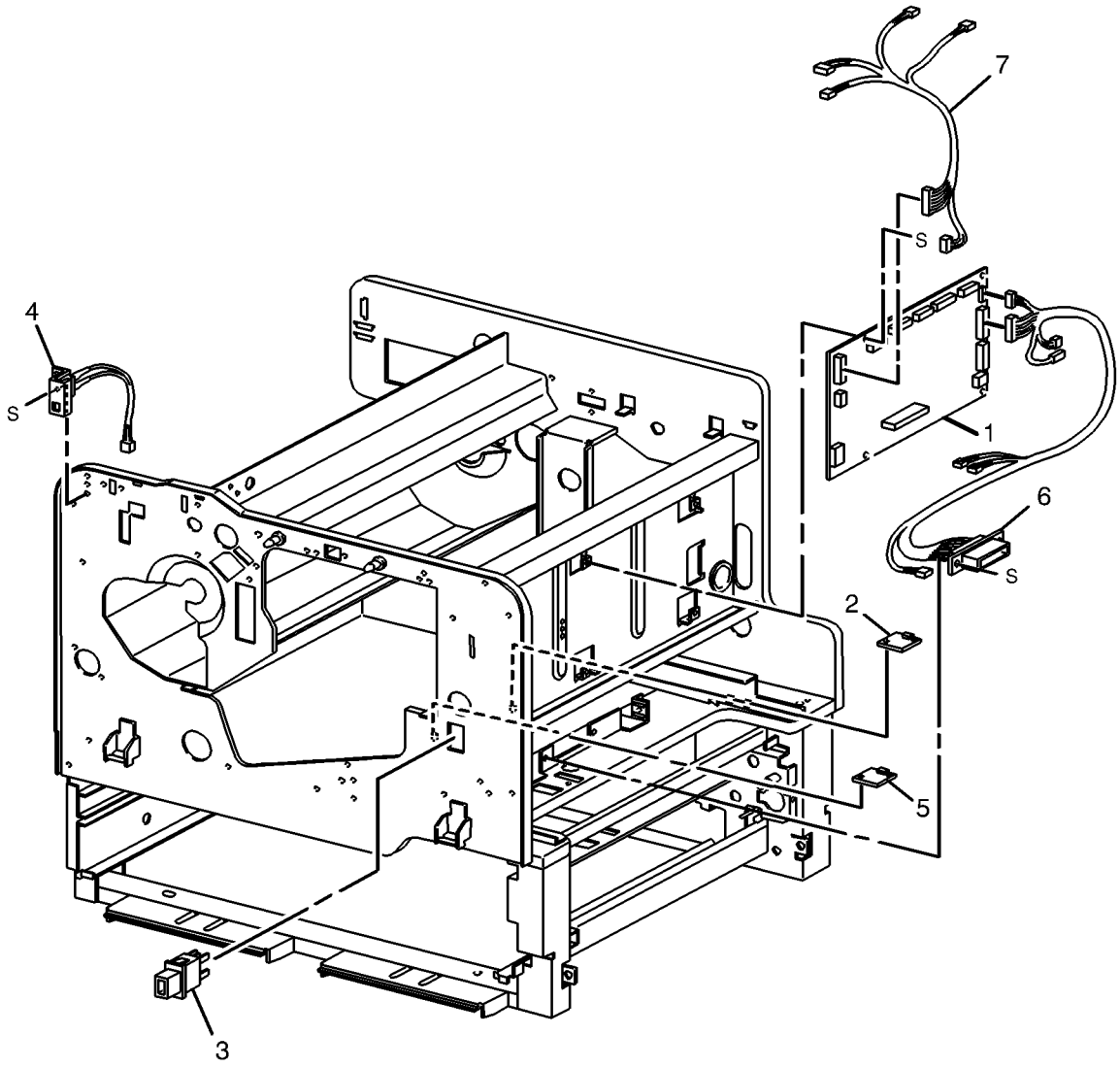
# PL 11.1 Electrical (1 of 2)

| Item | Part | Description |
|---|---|---|
| 1 | 105K15680 | Low Voltage Power Supply (LVPS) 110v (REP 1.1) |
| – | 105K18600 | Low Voltage Power Supply (LVPS) 220V (REP 1.1) |
| 2 | 105K15690 | High Voltage Power Supply (HVPS) (REP 1.2) |
| 3 | 110K07831 | Top Cover Interlock (REP 1.3) |
| 4 | – | Duct (Not Spared) |
| 5 | – | Developer Fan (Not Spared) (REP 1.4) |
| 6 | – | Bracket (Not Spared) |
| 7 | – | Clamp (Not Spared) |
| 8 | – | Bracket (Not Spared) |
| 9 | – | Clamp (Not Spared) |
| 10 | – | Bias Charge Roll (BCR) Wire (Not Spared) |
| 11 | – | Developer Wire (Not Spared) |
| 12 | 162K53100 | Main Harness |
| 13 | 162K53130 | Fuser Connector Harness |
| 14 | 117K31400 | Power Cord 110v |
| 15 | 162K55490 | Sorter Harness |



# PL 11.2 Electrical (2 of 2)

| Item | Part | Description |
|---|---|---|
| 1 | 160K75040 | MCU PWB (REP 1.5) |
| 2 | 160K61500 | Communication PWB (REP 1.12) |
| 3 | 110K98810 | Right Front Cover Interlock (REP 1.6) |
| 4 | 110E94380 | Left Front Cover Interlock (REP 1.7) |
| 5 | 130K60530 | Environment Sensor (REP 1.8) |
| 6 | 162K53120 | Paper Handling Contactor Harness |
| 7 | 162K61050 | ROS Harness |

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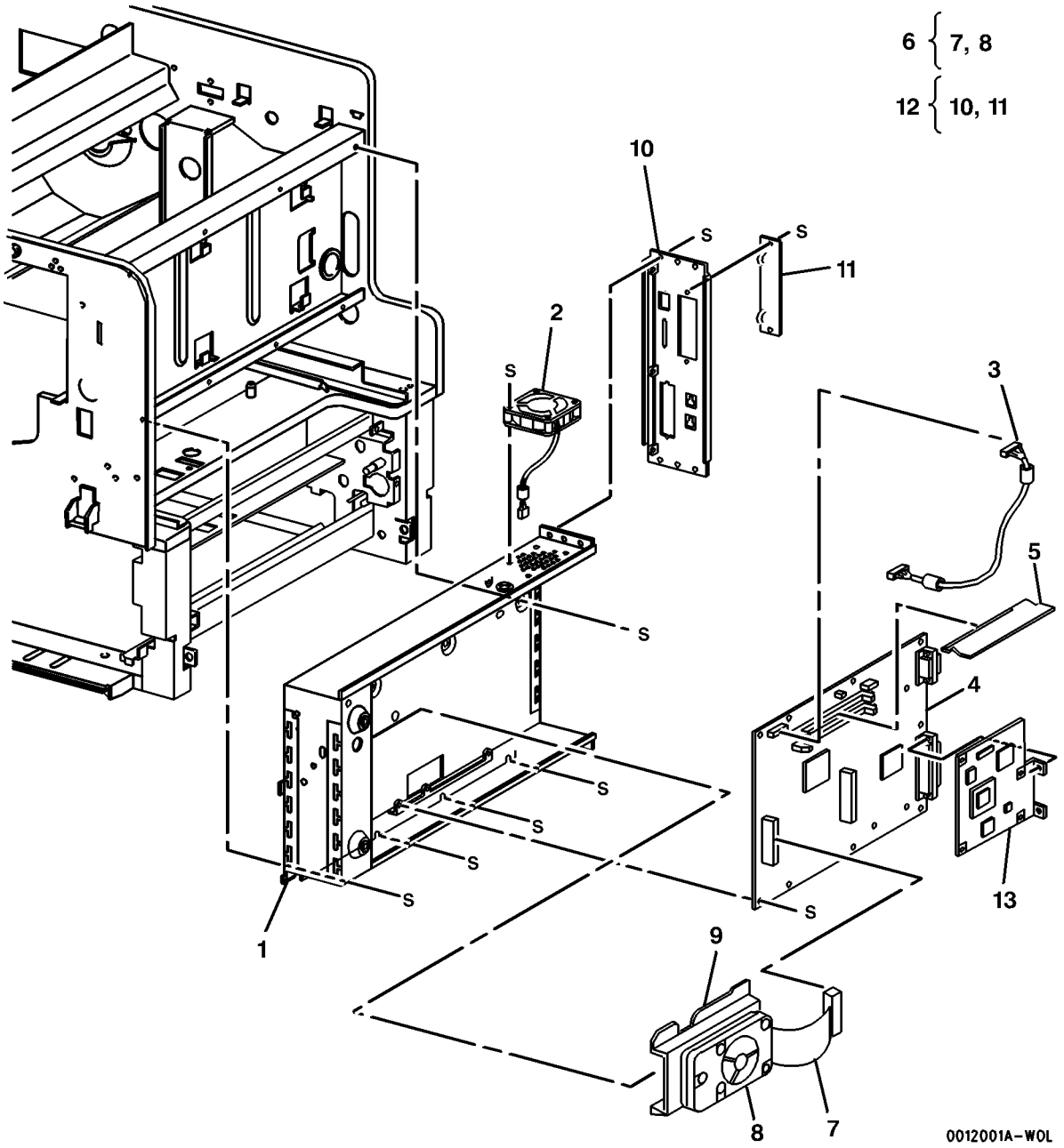
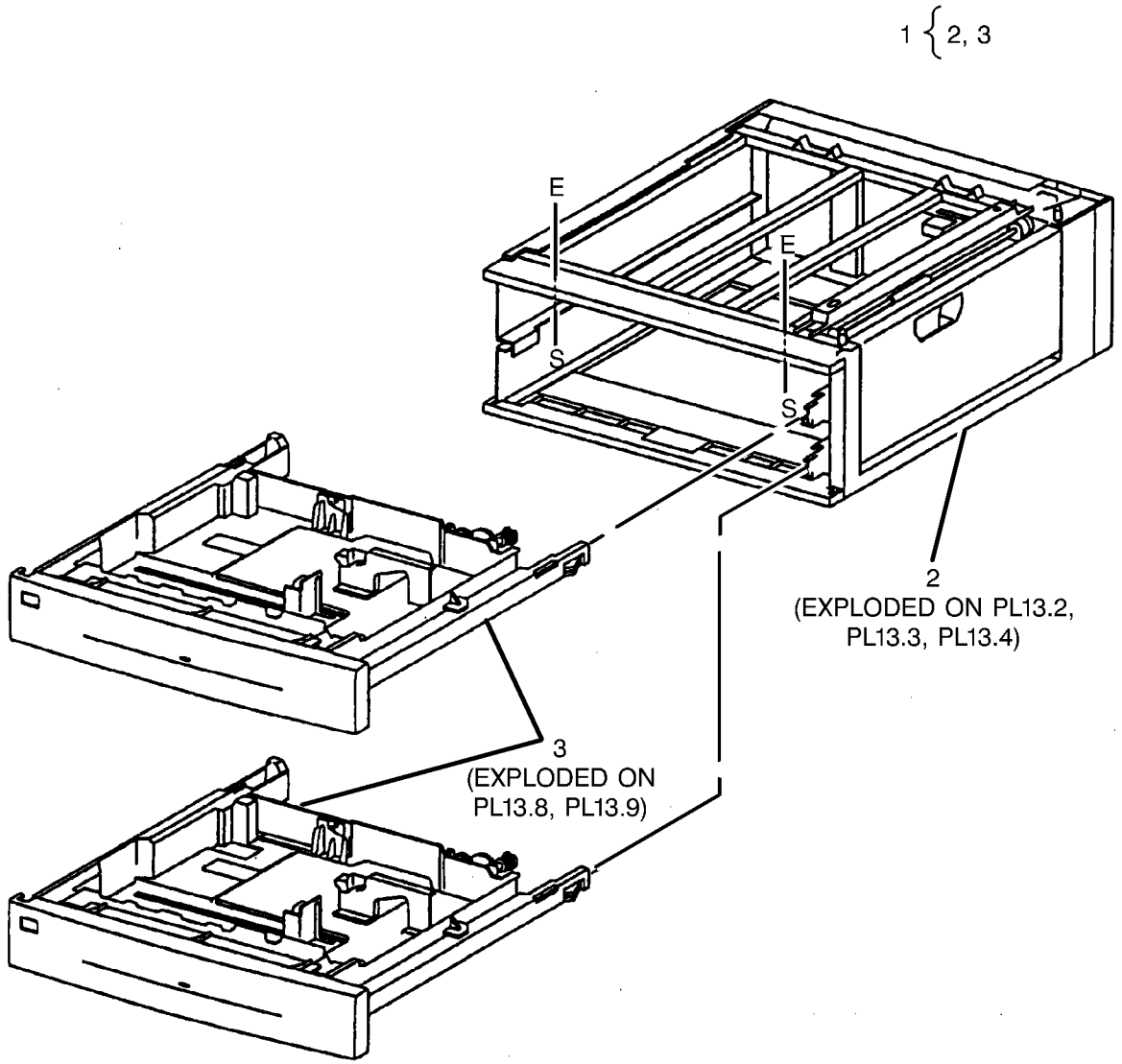
# PL 12.1 ESS

| Item | Part | Description |
|---|---|---|
| 1 | – | Controller Chassis (Not Spared) (REP 1.11) |
| 2 | 127E81670 | ESS Fan (REP 1.10) |
| 3 | 162K42090 | Panel Harness |
| 4 | 160K74641 | ESS PWB (REP 1.9) |
| 5 | 144E00440 | Memory (256MB) |
| – | 144E00430 | Memory (128MB) |
| – | 144E00420 | Memory (64MB) |
| 6 | 121K23181 | Hard Disk Drive Assembly (REP 1.13 ADJ 3.1) |
| 7 | – | IDE Cable (P/O PL 12.1 Item 6) |
| 8 | – | Hard Disk Drive (P/O PL 12.1 Item 6) |
| 9 | – | Bracket (Not Spared) |
| 10 | – | Plate (P/O PL 12.1 Item 12) |
| 11 | – | Cover (P/O PL 12.1 Item 12) |
| 12 | 015K48720 | Plate Assembly |
| 13 | 160K69650 | 1394 PWBA |



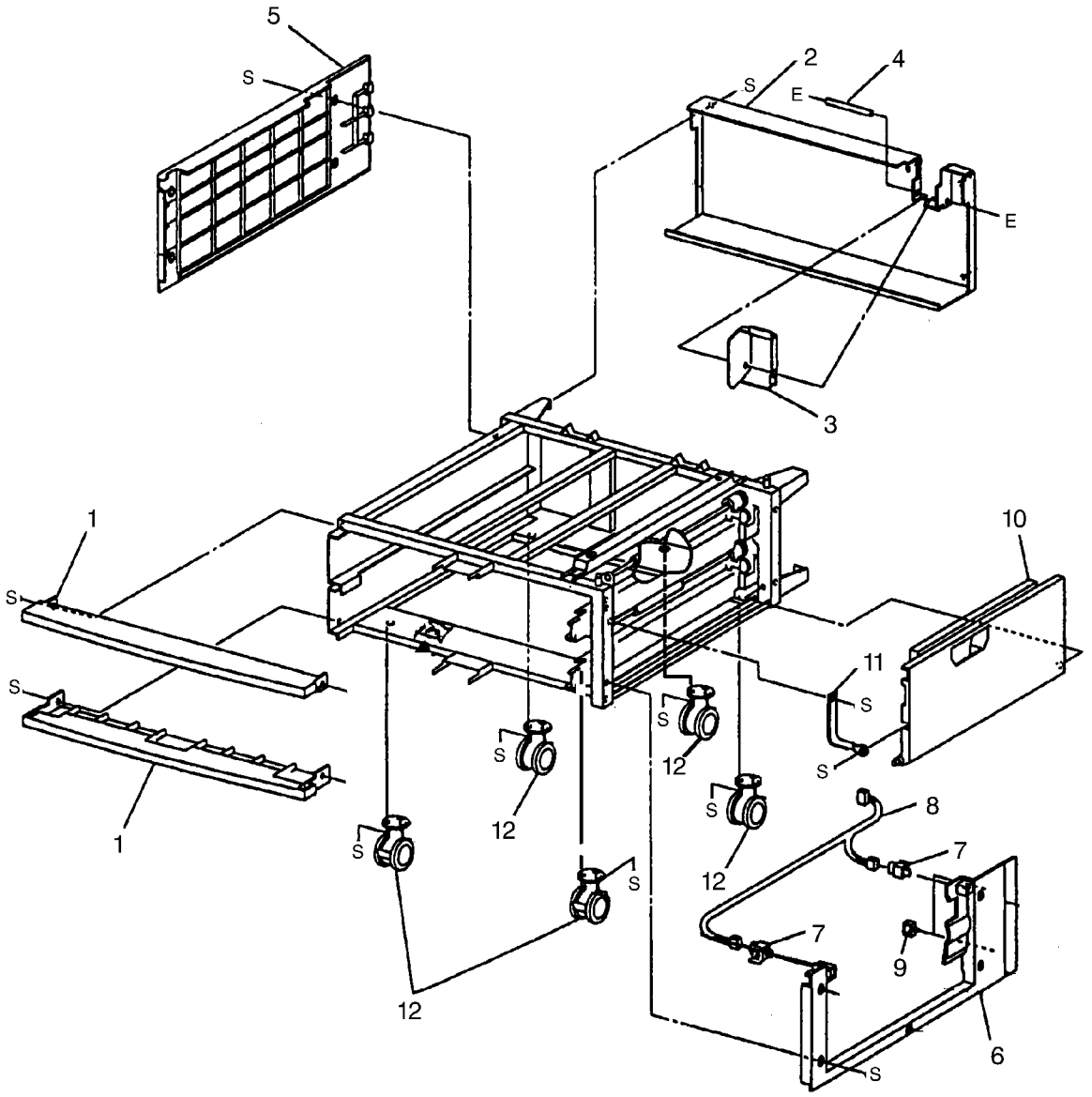
## PL 13.1 Optional Feeder Assembly (1 of 9)

| Item | Part | Description |
|---|---|---|
| 1 | – | Optional Feeder Assembly (Not Spared) |
| 2 | – | Optional Feeder Chassis Assembly (Not Spared) |
| 3 | 050K42600 | Paper Tray Assembly (REP 7.6) |



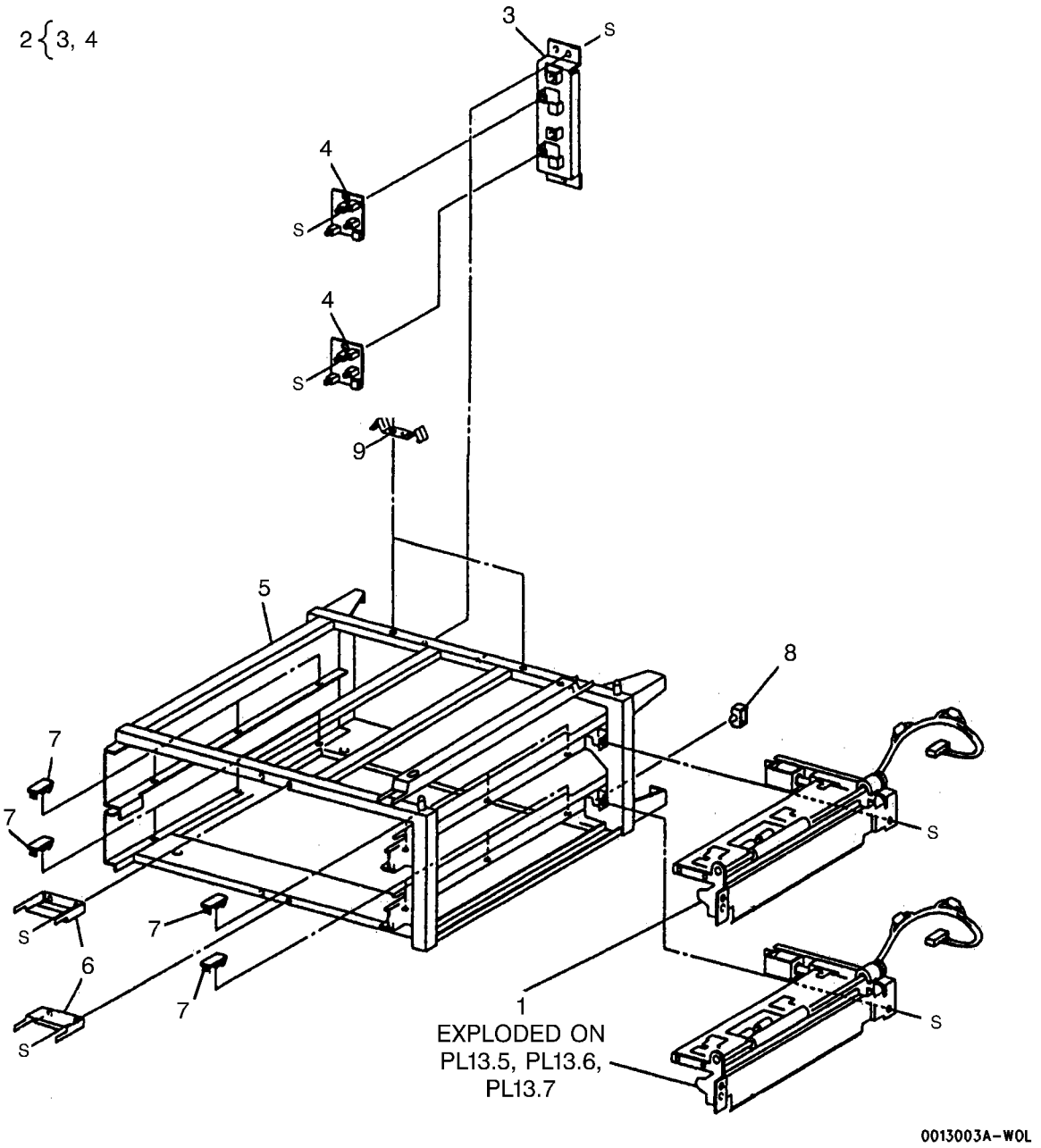
# PL 13.2 Optional Feeder Assembly (2 of 9)

| Item | Part | Description |
|---|---|---|
| 1 | 802E05130 | Feeder Front Cover |
| 2 | 802E15720 | Feeder Rear Cover |
| 3 | – | Feeder Rear Harness Cover (Not Spared) |
| 4 | – | Shaft (Not Spared) |
| 5 | 802E05191 | Feeder Left Cover |
| 6 | 802E15530 | Feeder Right Cover |
| 7 | 110E93440 | Feeder Right Cover Interlock 1, Feeder Right Cover Interlock 2 |
| 8 | 162K54131 | Cover Interlock Harness |
| 9 | – | Clamp (Not Spared) |
| 10 | – | Feeder Chute (Not Spared) |
| 11 | 830E19490 | Feeder Chute Support |
| 12 | 017K92350 | Caster |



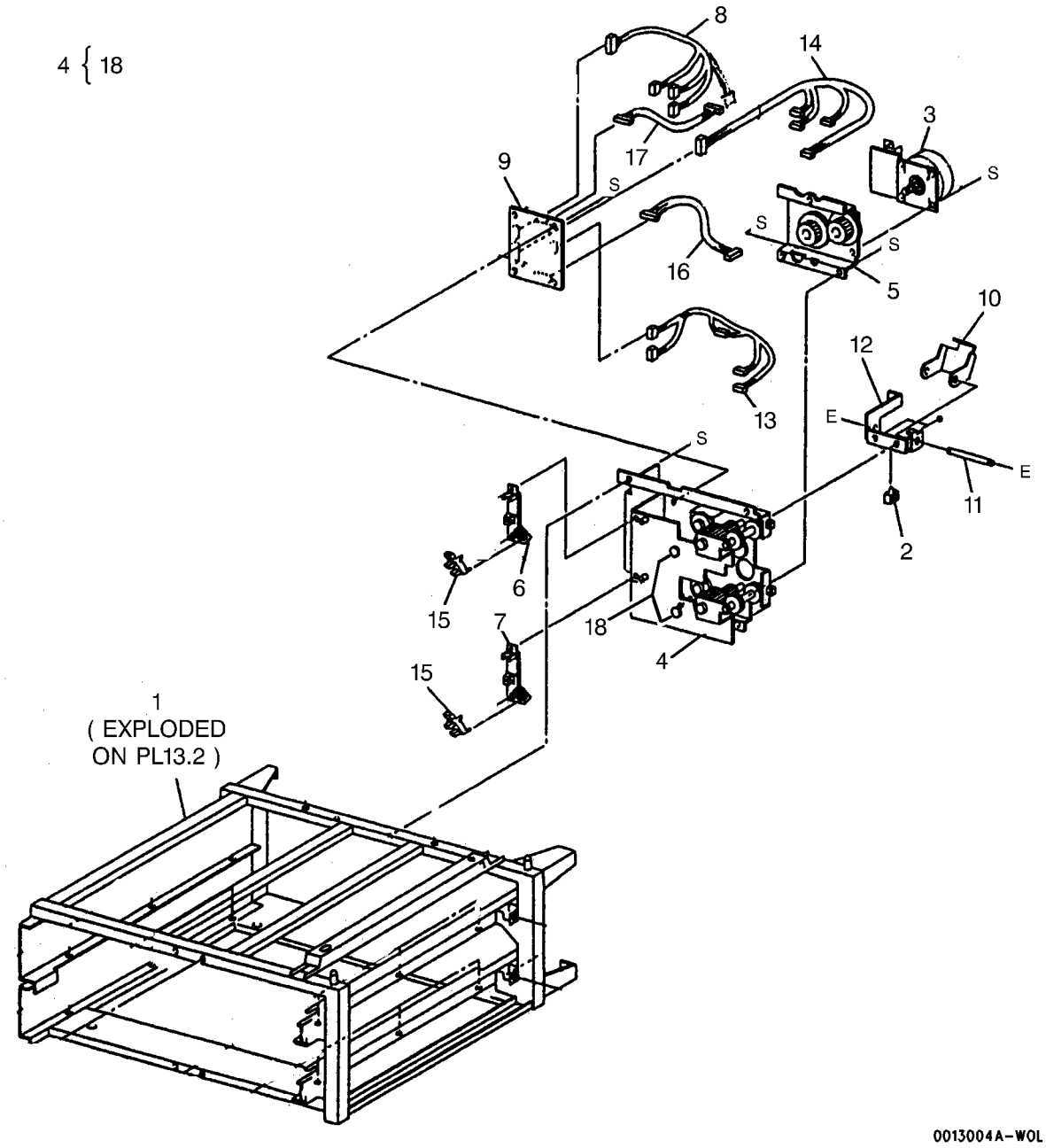
## PL 13.3 Optional Feeder Assembly (3 of 9)

| Item | Part | Description |
|---|---|---|
| 1 | 059K15182 | Paper Feeder Assembly |
| 2 | – | Size Switch Assembly (Not Spared) |
| 3 | – | Bracket (Not Spared) |
| 4 | 110K07040 | Size Switch PWB (REP 8.19) |
| 5 | – | Feeder Frame (Not Spared) |
| 6 | – | Bracket (Not Spared) |
| 7 | – | Clamp (Not Spared) |
| 8 | – | Clamp (Not Spared) |
| 9 | – | Ground Contact Spring (Not Spared) |



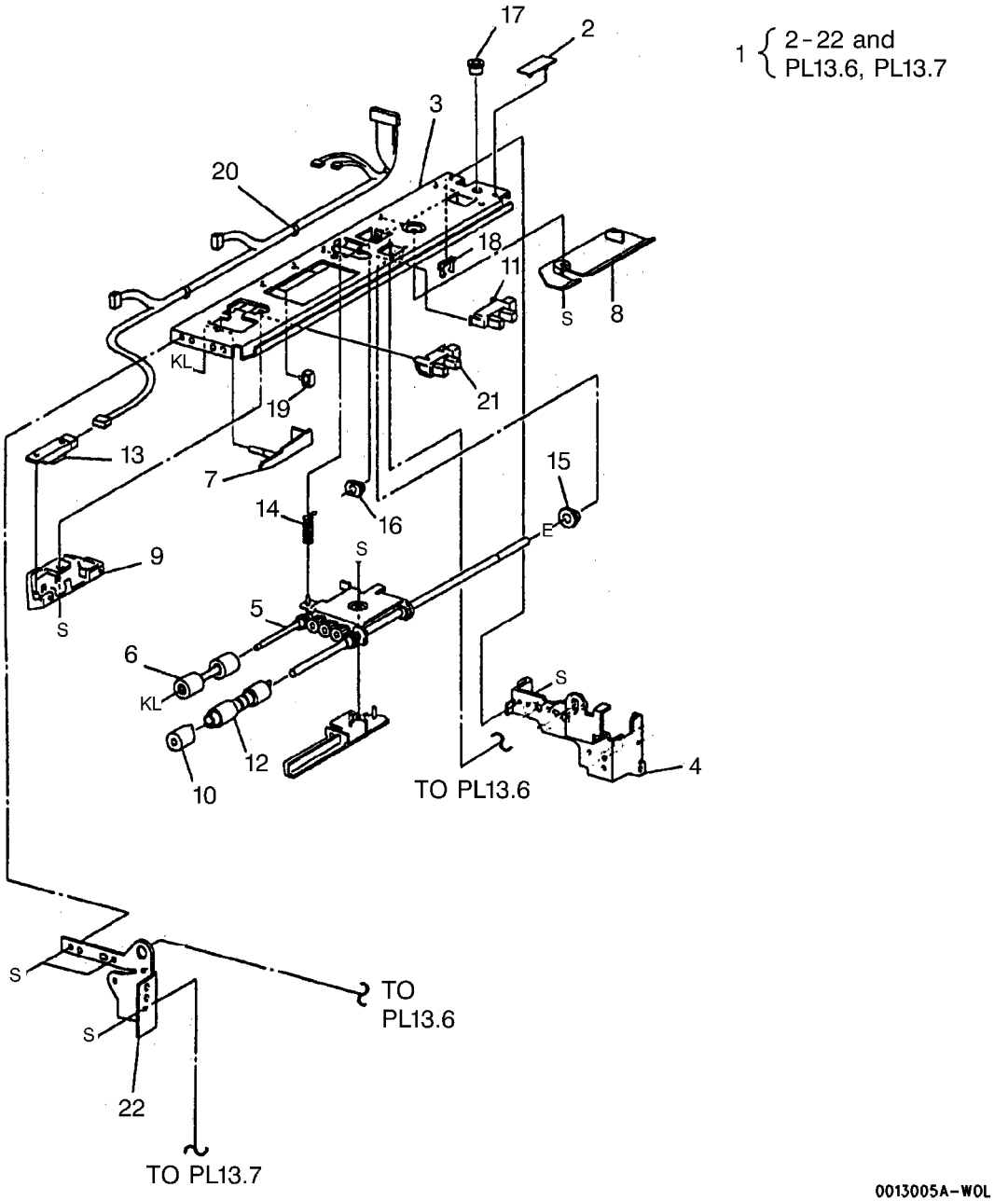
## PL 13.4 Optional Feeder Assembly (4 of 9)

| Item | Part | Description |
|---|---|---|
| 1 | – | Feeder Frame (Not Spared) |
| 2 | – | Clamp (Not Spared) |
| 3 | 127K28260 | Feeder Motor (REP 8.20) |
| 4 | 007K85422 | Feeder Drive Unit (REP 8.22) |
| 5 | – | Bracket (Not Spared) |
| 6 | – | Stopper (Not Spared) |
| 7 | – | Stopper (Not Spared) |
| 8 | – | Harness (Not Spared) |
| 9 | 160K74520 | Feeder PWB (REP 8.21) |
| 10 | – | Bracket (Not Spared) |
| 11 | – | Shaft (Not Spared) |
| 12 | – | Bracket (Not Spared) |
| 13 | 162K54090 | Feeder Harness |
| 14 | 162K54120 | Size Harness |
| 15 | 130E81970 | Low Paper Sensor (REP 8.22) |
| 16 | 162K54140 | Upper Feeder Harness |
| 17 | 162K54150 | Lower Feeder Harness |
| 18 | – | Lift Clutch (P/O PL 13.4) |



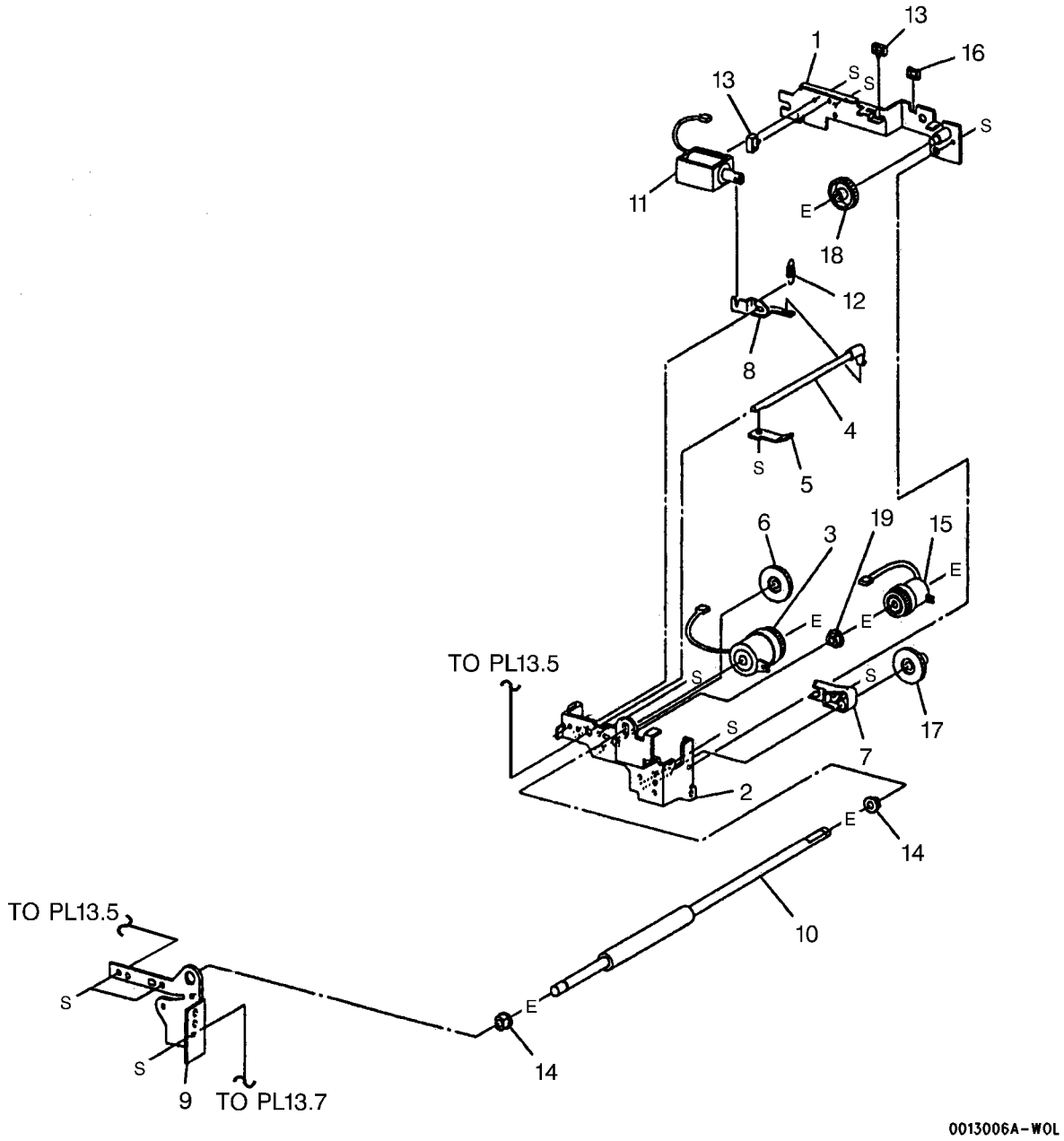
# PL 13.5 Optional Feeder Assembly (5 of 9)

| Item | Part | Description |
|---|---|---|
| 1 | 059K15182 | Paper Feeder Assembly (REP 8.23) |
| 2 | – | Sheet Clamp (P/O PL 13.5 Item 1) |
| 3 | – | Upper Feeder Frame (P/O PL 13.5 Item 1) |
| 4 | – | Rear Frame (P/O PL 13.5 Item 1) |
| 5 | – | Support (P/O PL 13.5 Item 1) |
| 6 | 059K14300 | Nudger Roll |
| 7 | – | No Paper Sensor Actuator (P/O PL 13.5 Item 1) |
| 8 | – | Rear Upper Chute (P/O PL 13.5 Item 1) |
| 9 | – | Front Upper Chute (P/O PL 13.5 Item 1) |
| 10 | – | Spacer (P/O PL 13.5 Item 1) |
| 11 | – | Nudger Sensor (P/O PL 13.5 Item 1) |
| 12 | 059K17250 | Feed Roll |
| 13 | 130E82650 | Feed Out Sensor |
| 14 | – | Spring (P/O PL 13.5 Item 1) |
| 15 | – | Bearing (P/O PL 13.5 Item 1) |
| 16 | – | Bearing (P/O PL 13.5 Item 1) |
| 17 | – | Bushing (P/O PL 13.5 Item 1) |
| 18 | – | Clamp (P/O PL 13.5 Item 1) |
| 19 | – | Clamp (P/O PL 13.5 Item 1) |
| 20 | – | Harness (P/O PL 13.5 Item 1) |
| 21 | 130E81600 | No Paper Sensor |
| 22 | – | Front Frame (P/O PL 13.5 Item 1) |



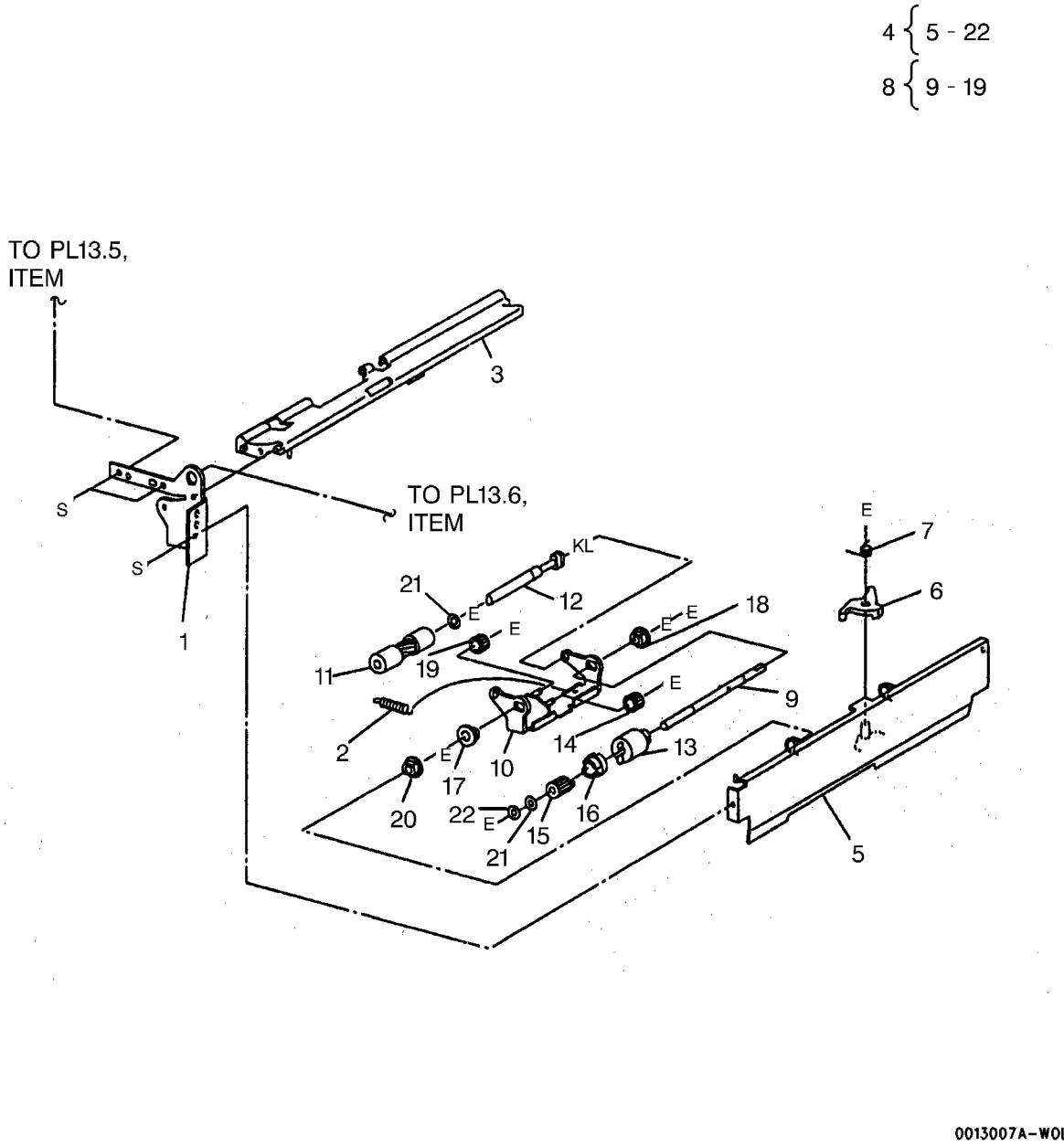
# PL 13.6 Optional Feeder Assembly (6 of 9)

| Item | Part | Description |
|---|---|---|
| 1 | – | Feed Bracket (P/O PL 13.5 Item 1) |
| 2 | – | Rear Frame (P/O PL 13.5 Item 1) |
| 3 | 121K23790 | Takeaway Clutch (REP 8.24) |
| 4 | – | Nudger Lever (P/O PL 13.5 Item 1) |
| 5 | – | Lever Plate (P/O PL 13.5 Item 1) |
| 6 | – | Gear (P/O PL 13.5 Item 1) |
| 7 | – | Stopper (P/O PL 13.5 Item 1) |
| 8 | – | Link (P/O PL 13.5 Item 1) |
| 9 | – | Front Frame (P/O PL 13.5 Item 1) |
| 10 | – | Takeaway Roll (P/O PL 13.5 Item 1) |
| 11 | 121K21560 | Nudger Solenoid (REP 8.25) |
| 12 | – | Spring (P/O PL 13.5 Item 1) |
| 13 | – | Clamp (P/O PL 13.5 Item 1) |
| 14 | – | Bearing (P/O PL 13.5 Item 1) |
| 15 | – | Turn Clutch (P/O PL 13.5 Item 1) (REP 8.26) |
| 16 | – | Clamp (P/O PL 13.5 Item 1) |
| 17 | – | Gear (P/O PL 13.5 Item 1) |
| 18 | – | Gear (P/O PL 13.5 Item 1) |
| 19 | – | Bearing (P/O PL 13.5 Item 1) |



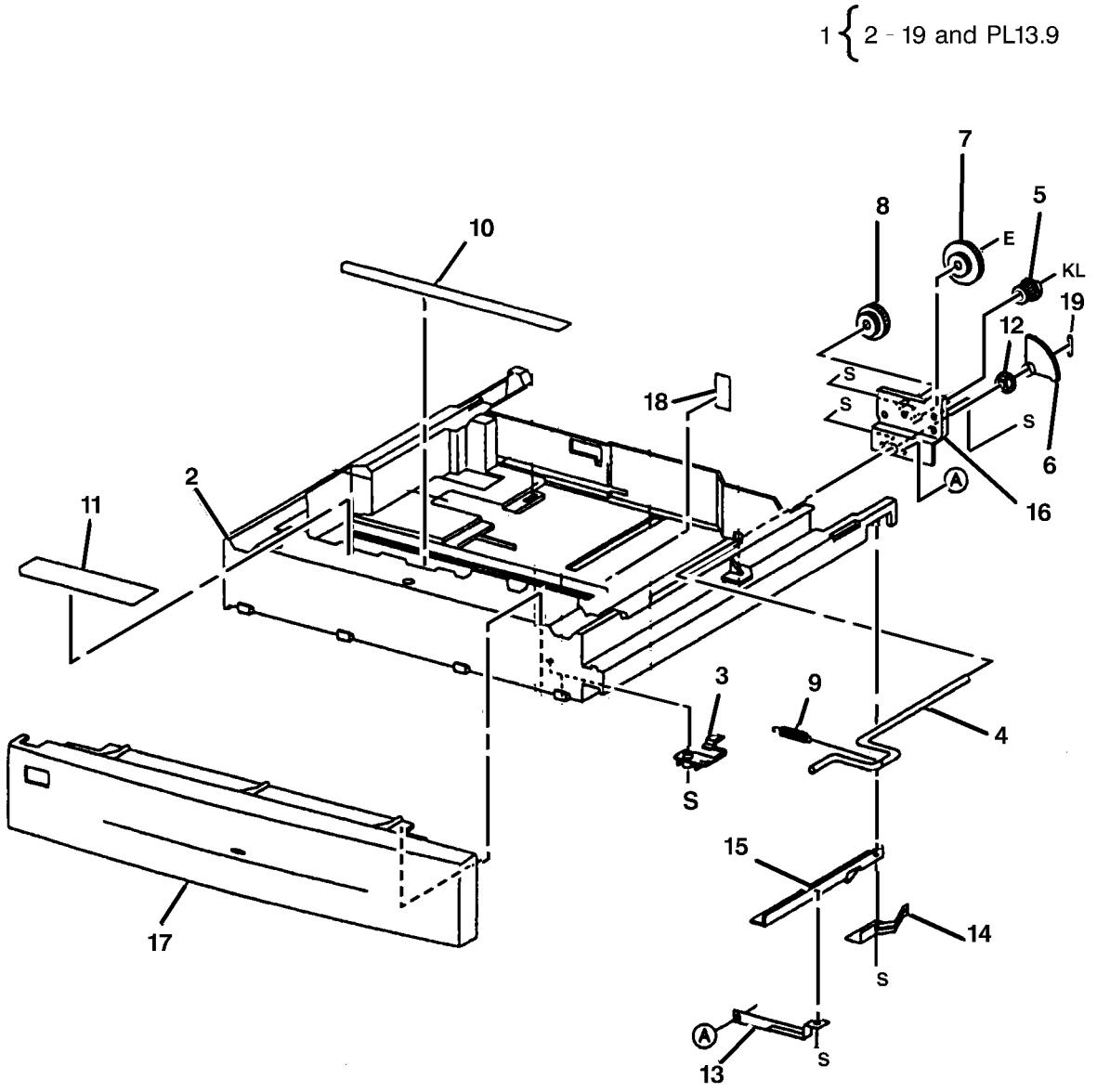
# PL 13.7 Optional Feeder Assembly (7 of 9)

| Item | Part | Description |
|---|---|---|
| 1 | – | Front Frame (P/O PL 13.5 Item 1) |
| 2 | – | Spring (P/O PL 13.5 Item 1) |
| 3 | – | Lower Chute (P/O PL 13.5 Item 1) |
| 4 | – | Lower Frame Assembly (P/O PL 13.5 Item 1) |
| 5 | – | Lower Frame (P/O PL 13.5 Item 1) |
| 6 | – | Retard Lever (P/O PL 13.5 Item 1) |
| 7 | – | Spring (P/O PL 13.5 Item 1) |
| 8 | – | Retard Assembly (P/O PL 13.5 Item 1) |
| 9 | – | Retard Shaft (P/O PL 13.5 Item 1) |
| 10 | – | Retard Support (P/O PL 13.5 Item 1) |
| 11 | 059K08840 | Retard Roll |
| 12 | – | Shaft (P/O PL 13.5 Item 1) |
| 13 | – | Friction Clutch (P/O PL 13.5 Item 1) |
| 14 | – | Gear (P/O PL 13.5 Item 1) |
| 15 | – | Gear (P/O PL 13.5 Item 1) |
| 16 | – | Collar (P/O PL 13.5 Item 1) |
| 17 | – | Bearing (P/O PL 13.5 Item 1) |
| 18 | – | Bearing (P/O PL 13.5 Item 1) |
| 19 | – | Gear (P/O PL 13.5 Item 1) |
| 20 | – | Bearing (P/O PL 13.5 Item 1) |
| 21 | – | Nylon Washer (P/O PL 13.5 Item 1) |
| 22 | – | E-Ring (P/O PL 13.5 Item 1) |



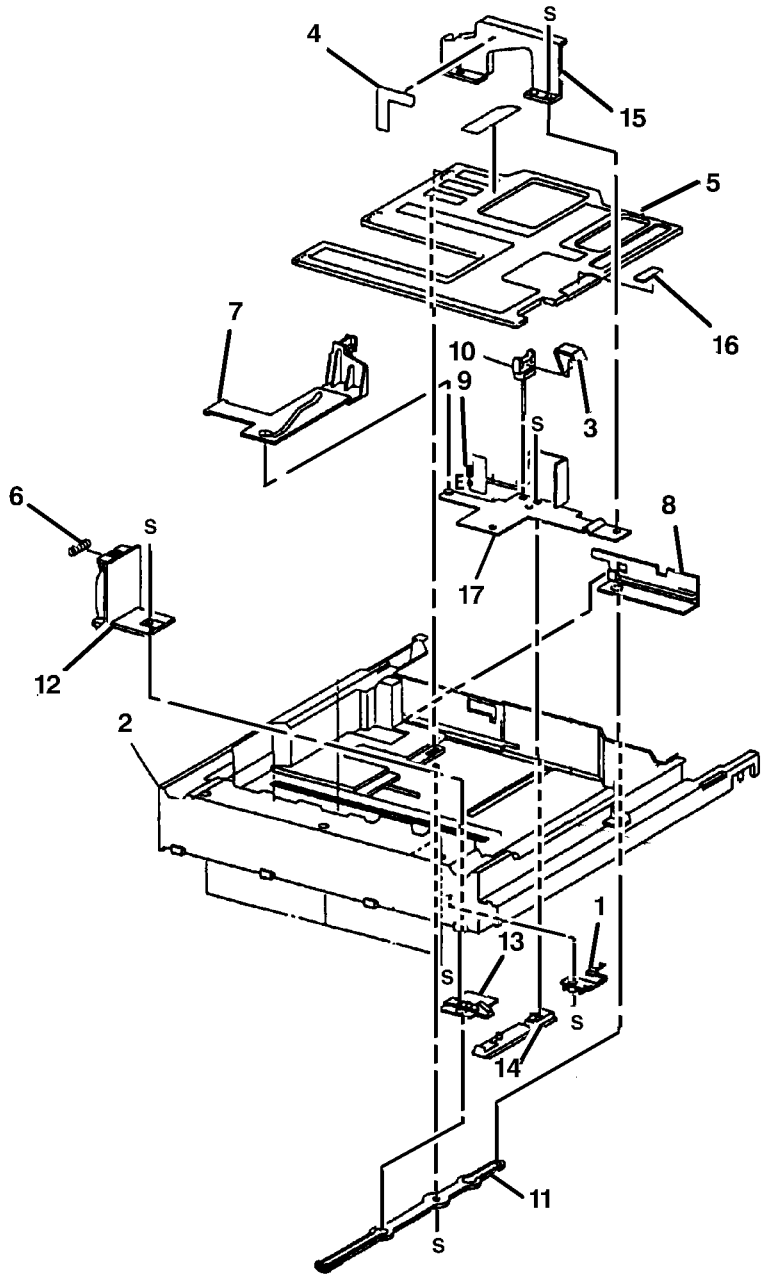
# PL 13.8 Optional Feeder Assembly (8 of 9)

| Item | Part | Description |
|---|---|---|
| 1 | 050K42600 | Paper Tray Assembly |
| 2 | – | Tray Housing (P/O PL 13.8 Item 1) |
| 3 | – | Paper Guide (P/O PL 13.8 Item 1) |
| 4 | – | Lift Shaft (P/O PL 13.8 Item 1) |
| 5 | – | Gear (P/O PL 13.8 Item 1) |
| 6 | – | Gear (P/O PL 13.8 Item 1) |
| 7 | – | Gear (P/O PL 13.8 Item 1) |
| 8 | – | Gear (P/O PL 13.8 Item 1) |
| 9 | – | Extension Spring (P/O PL 13.8 Item 1) |
| 10 | – | Side End Label (P/O PL 13.8 Item 1) |
| 11 | – | Label (P/O PL 13.8 Item 1) |
| 12 | – | Bearing (P/O PL 13.8 Item 1) |
| 13 | – | Spring (P/O PL 13.8 Item 1) |
| 14 | – | Spring (P/O PL 13.8 Item 1) |
| 15 | – | Rail (P/O PL 13.8 Item 1) |
| 16 | – | Rear Plate (P/O PL 13.8 Item 1) |
| 17 | – | Tray Front Cover (P/O PL 13.8 Item 1) |
| 18 | – | Pad (P/O PL 13.8 Item 1) |
| 19 | – | Gear Drive Pin (P/O PL 13.8 Item 1) |



# PL 13.9 Optional Feeder Assembly (9 of 9)

| Item | Part | Description |
|---|---|---|
| 1 | – | Paper Guide (P/O PL 13.8 Item 1) |
| 2 | – | Tray Housing (P/O PL 13.8 Item 1) |
| 3 | – | Side Guide Lock Knob (P/O PL 13.8 Item 1) |
| 4 | – | Max Label (P/O PL 13.8 Item 1) |
| 5 | – | Lift Plate (P/O PL 13.8 Item 1) |
| 6 | – | Guide Spring (P/O PL 13.8 Item 1) |
| 7 | – | End Guide Actuator (P/O PL 13.8 Item 1) |
| 8 | – | Side Guide Actuator (P/O PL 13.8 Item 1) |
| 9 | – | Spring (P/O PL 13.8 Item 1) |
| 10 | – | Level (P/O PL 13.8 Item 1) |
| 11 | – | End Guide Link (P/O PL 13.8 Item 1) |
| 12 | – | End Guide (P/O PL 13.8 Item 1) |
| 13 | – | End Guide Plate (P/O PL 13.8 Item 1) |
| 14 | – | Side Guide Plate (P/O PL 13.8 Item 1) |
| 15 | – | Side Guide (P/O PL 13.8 Item 1) |
| 16 | – | Bottom Pad (P/O PL 13.8 Item 1) |
| 17 | – | Guide Plate (P/O PL 13.8 Item 1) |

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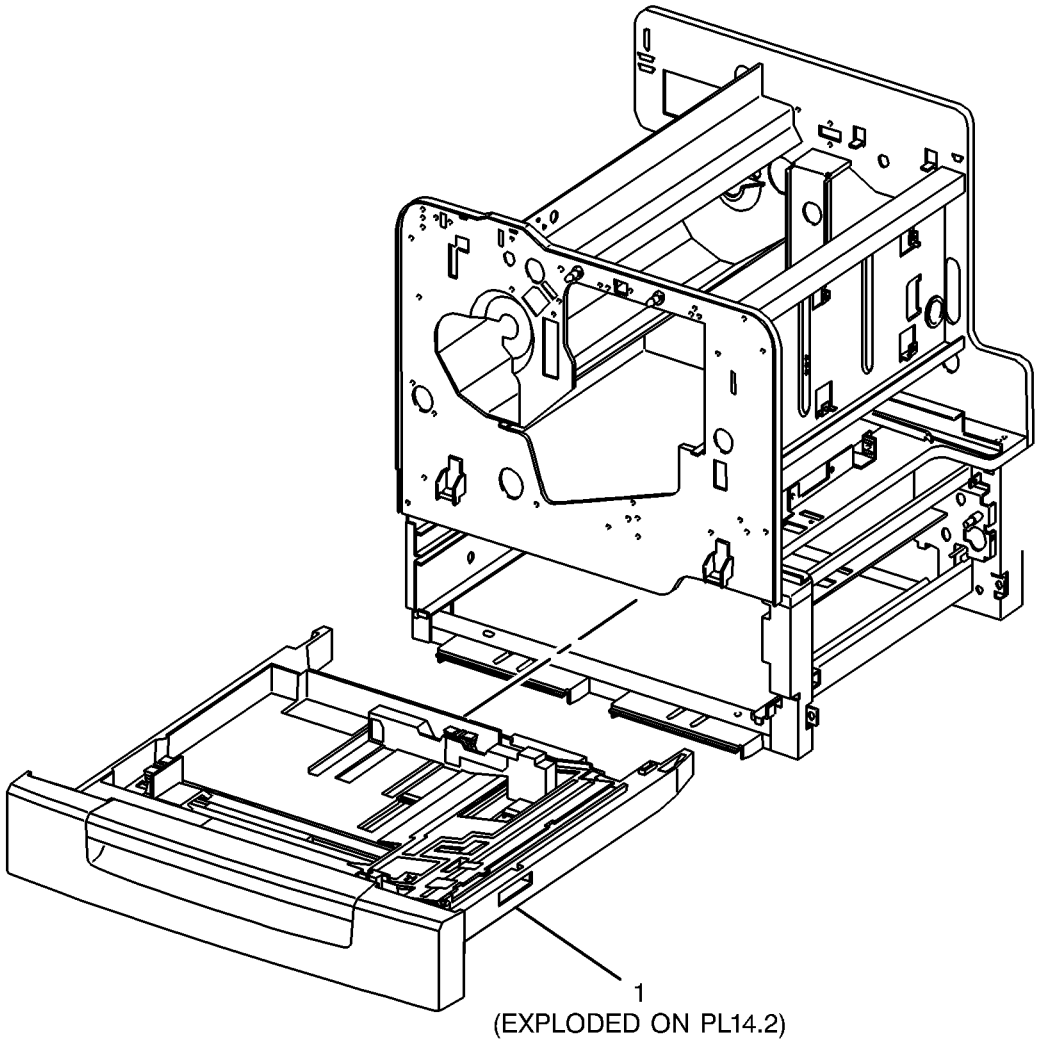
# PL 14.1 OHP Transparency Tray Assembly (1 of 2)

| Item | Part | Description |
|---|---|---|
| 1 | 050K42460 | OHP Transparency Tray Assembly |

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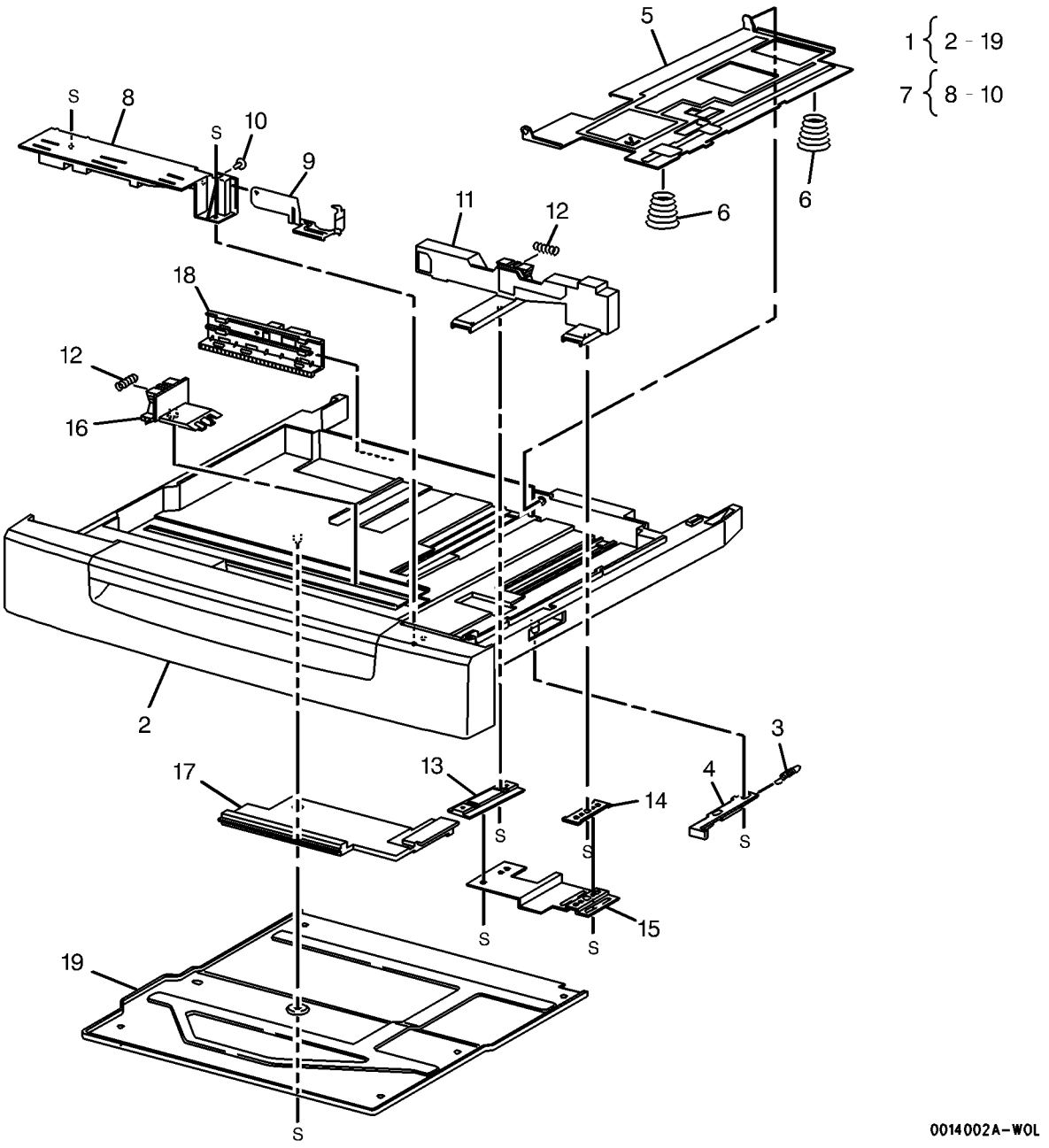
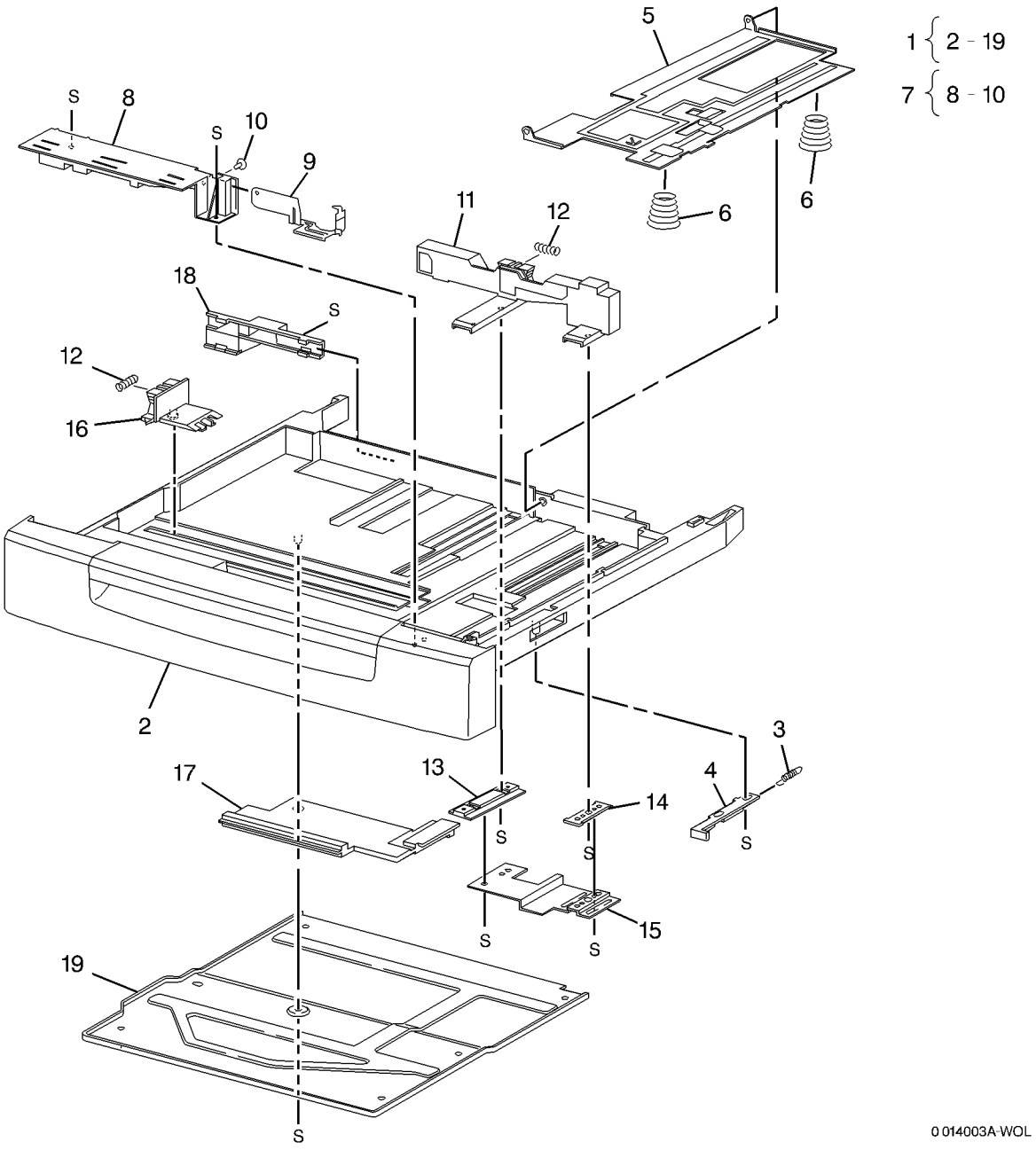
# PL 14.2 OHP Transparency Tray Assembly (2 of 2)

| Item | Part | Description |
|---|---|---|
| 1 | 050K42460 | OHP Transparency Tray Assembly |
| 2 | – | Tray Housing (P/O PL 14.2 Item 1) |
| 3 | – | Link Spring (P/O PL 14.2 Item 1) |
| 4 | – | Plate Link (P/O PL 14.2 Item 1) |
| 5 | – | Transparency Lift Plate (P/O PL 14.2 Item 1) |
| 6 | – | Tray Lift Spring (P/O PL 14.2 Item 1) |
| 7 | – | Front Guide Assembly (P/O PL 14.2 Item 1) |
| 8 | 038E88420 | Front Guide |
| 9 | 019K97140 | Transparency Tray Front Snubber (REP 7.8) |
| 10 | – | Snubber Stopper (P/O PL 14.2 Item 1) |
| 11 | – | Rear Guide (P/O PL 14.2 Item 1) |
| 12 | – | Guide Spring (P/O PL 14.2 Item 1) |
| 13 | – | Left Rear Guide Plate (P/O PL 14.2 Item 1) |
| 14 | – | Right Rear Guide Plate (P/O PL 14.2 Item 1) |
| 15 | – | Lock Plate (P/O PL 14.2 Item 1) |
| 16 | 038K85490 | End Guide |
| 17 | – | Guide Stopper (P/O PL 14.2 Item 1) |
| 18 | – | Transparency Tray Size Actuator (P/O PL 14.2 Item 1) |
| 19 | – | Tray Bottom Cover (P/O PL 14.2 Item 1) |



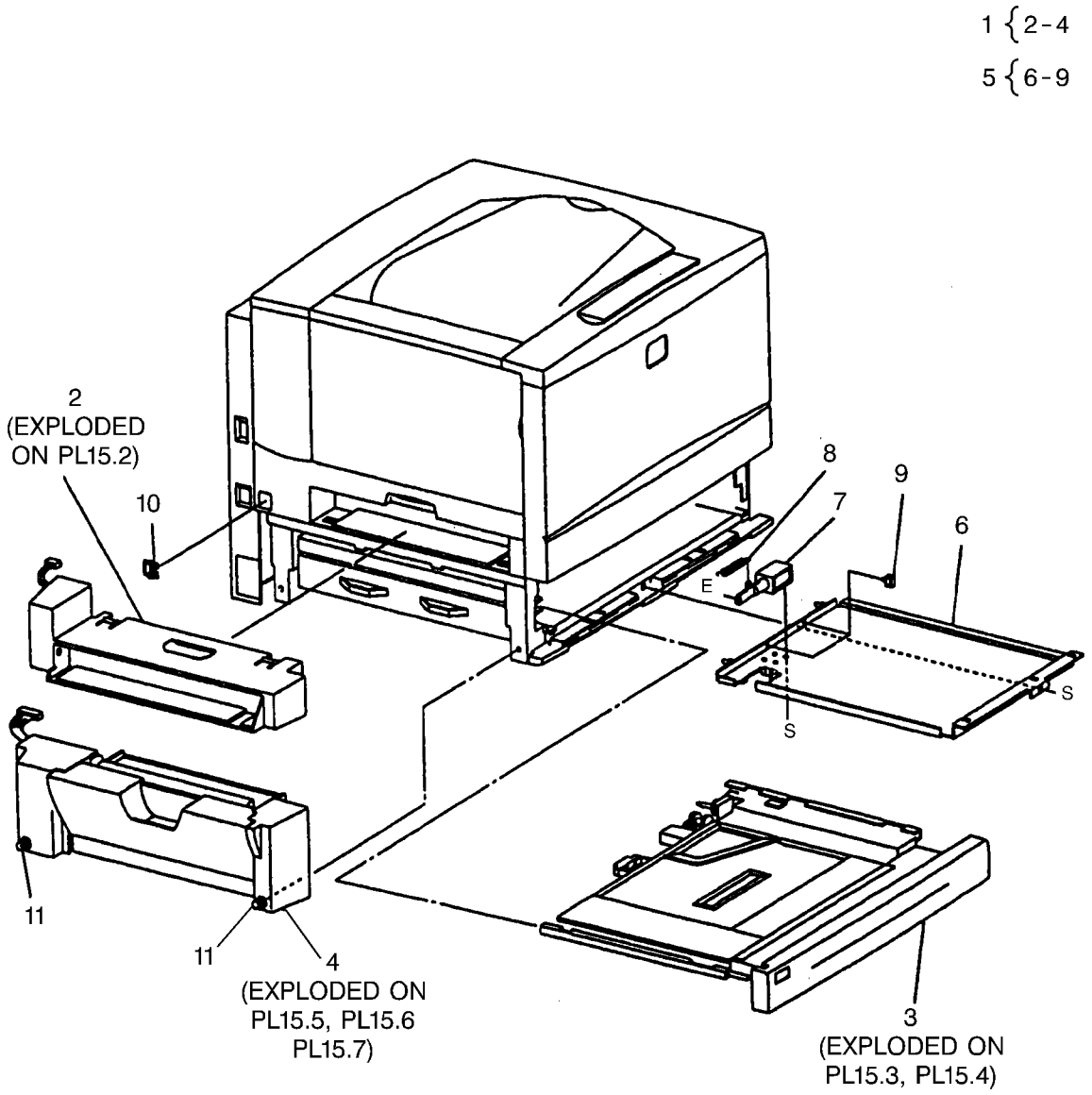
## PL 14.3 Oversize Tray

| Item | Part | Description |
|---|---|---|
| 1 | 050K42172 | Oversize Tray Assembly (REP 7.6) |
| 2 | – | Tray Housing (P/O )PL 14.3 Item 1) |
| 3 | – | Lift Spring (P/O PL 14.3 Item 1) |
| 4 | – | Plate Link (P/O PL 14.3 Item 1) |
| 5 | – | Oversize Lift Plate (P/O PL 14.3 Item 1) |
| 6 | – | Tray Lift Spring (P/O PL 14.3 Item 1) |
| 7 | – | Front Guide Assembly (P/O PL 14.3 Item 1) |
| 8 | 038E88420 | Front Guide |
| 9 | 019K97140 | Oversize Tray Front Snubber (REP 7.8) |
| 10 | – | Snubber Stopper (P/O PL 14.3 Item 1) |
| 11 | – | Rear Guide (P/O PL 14.3 Item 1) |
| 12 | – | Guide Spring (P/O PL 14.3 Item 1) |
| 13 | – | Left Rear Guide Plate (P/O PL 14.3 Item 1) |
| 14 | – | Right Rear Guide Plate (P/O PL 14.3 Item 1) |
| 15 | – | Lock Plate (P/O PL 14.3 Item 1) |
| 16 | 038K85490 | End Guide |
| 17 | – | Guide Stopper (P/O PL 14.3 Item 1) |
| 18 | 120E12930 | Oversize Tray Actuator |
| 19 | – | Tray Bottom Cover (P/O PL 14.3 Item 1) |



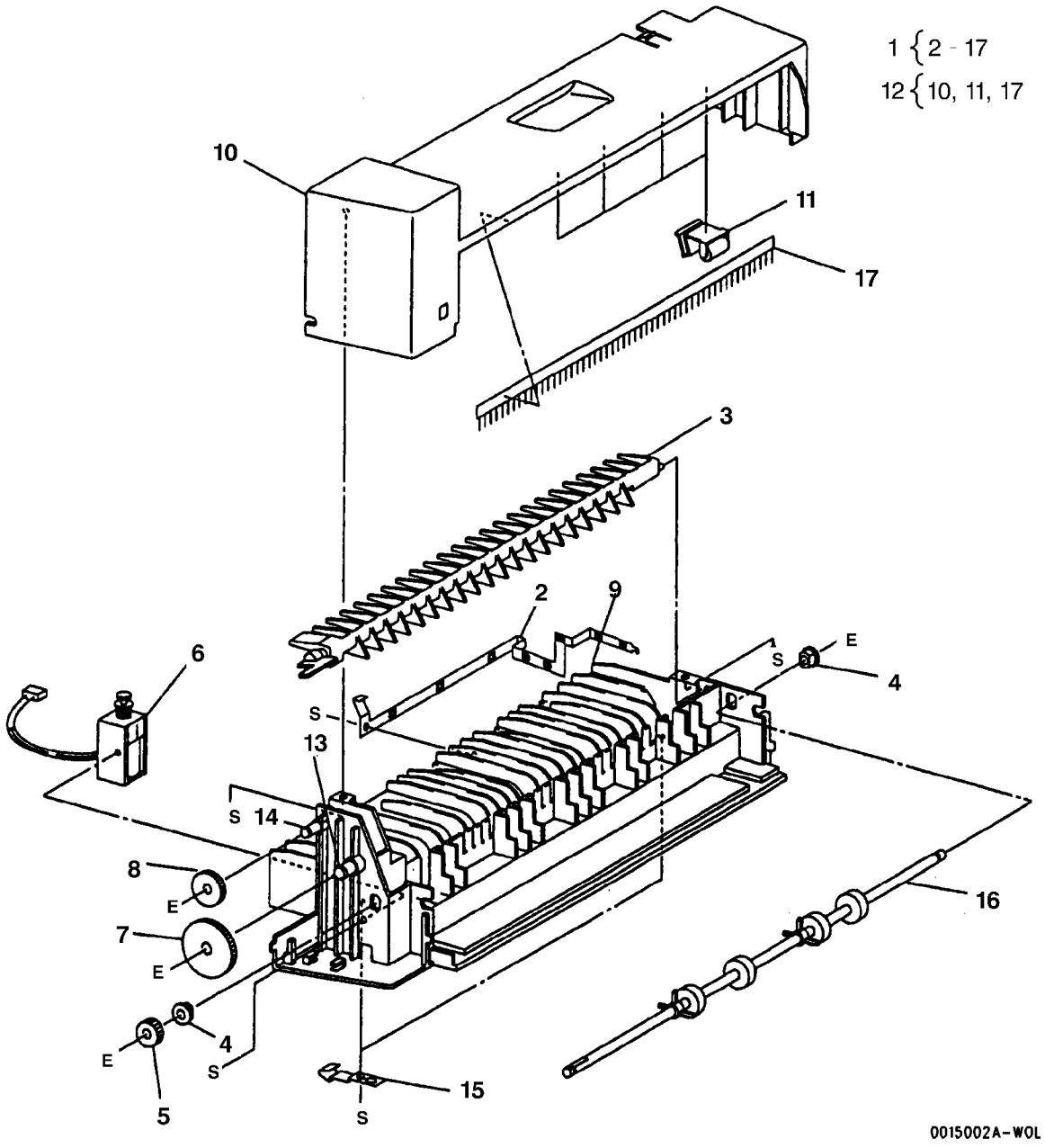
# PL 15.1 Duplex Assembly (1 of 7)

| Item | Part | Description |
|---|---|---|
| 1 | – | Duplex Final Assembly (Not Spared) |
| 2 | 059K18960 | Inverter Upper Assembly |
| 3 | 059K19050 | Duplex Tray Assembly |
| 4 | 059K19120 | Inverter Lower Assembly |
| 5 | – | Lower Chute Assembly (Not Spared) |
| 6 | – | Lower Chute (Not Spared) |
| 7 | 121K21570 | Duplex Nip Solenoid (REP 8.39) |
| 8 | – | Spring (Not Spared) |
| 9 | – | Clamp (Not Spared) |
| 10 | 021E97232 | Cover |
| 11 | 026E74100 | Mounting Screws |



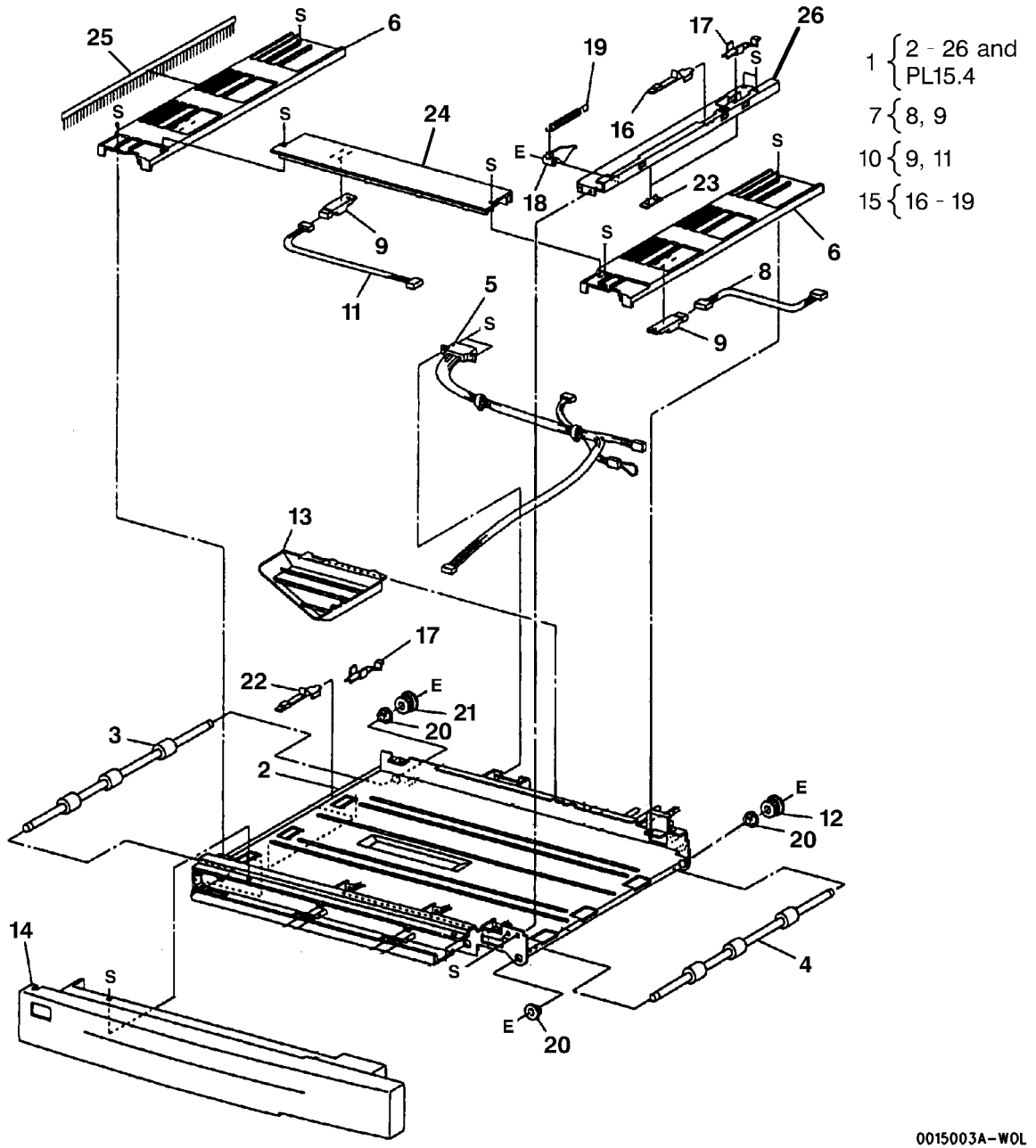
## PL 15.2 Duplex Assembly (2 of 7)

| Item | Part | Description |
|---|---|---|
| 1 | 059K18960 | Inverter Upper Assembly (REP 8.33) |
| 2 | – | Ground Contact Spring (P/O PL 15.2 Item 1) |
| 3 | – | Duplex Gate (P/O PL 15.2 Item 1) |
| 4 | – | Bearing (P/O PL 15.2 Item 1) |
| 5 | – | Gear (P/O PL 15.2 Item 1) |
| 6 | 121K22250 | Inverter Solenoid |
| 7 | – | Gear (P/O PL 15.2 Item 1) |
| 8 | – | Gear (P/O PL 15.2 Item 1) |
| 9 | – | Exit Chute (P/O PL 15.2 Item 1) |
| 10 | – | Exit Cover (P/O PL 15.2 Item 1, PL 15.2 Item 12) |
| 11 | – | Pinch Roll (P/O PL 15.2 Item 1, PL 15.2 Item 12) |
| 12 | 802K25820 | Exit Cover Assembly |
| 13 | – | Shaft (P/O PL 15.2 Item 1) |
| 14 | – | Shaft (P/O PL 15.2 Item 1) |
| 15 | – | Spring Latch (P/O PL 15.2 Item 1) |
| 16 | 022K57450 | Exit Roll (REP 8.34) |
| 17 | – | Antistatic Brush (P/O PL 15.2 Item 1, PL 15.2 Item 12) |



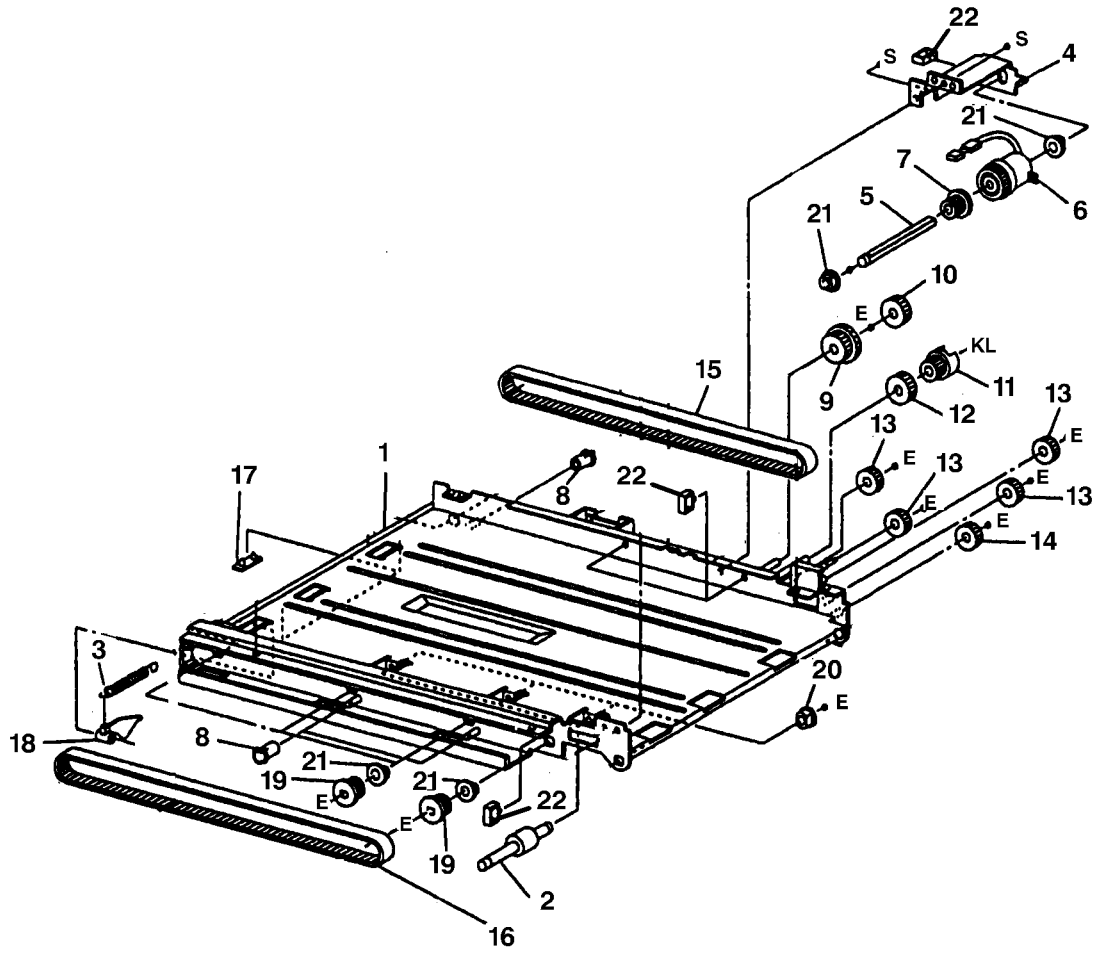
# PL 15.3 Duplex Assembly (3 of 7)

| Item | Part | Description |
|---|---|---|
| 1 | 059K19050 | Duplex Tray Assembly (REP 8.27) |
| 2 | – | Chute (P/O PL 15.3 Item 1) |
| 3 | 022K57460 | Entrance Roll |
| 4 | 022K57470 | Exit Roll |
| 5 | 162K55450 | Duplex Tray Harness |
| 6 | – | Entrance Chute (P/O PL 15.3 Item 1) |
| 7 | – | Exit Chute (P/O PL 15.3 Item 1) |
| 8 | – | Harness (P/O PL 15.3 Item 1) |
| 9 | 130E82650 | Duplex Entance Sensor, Duplex Exit Sensor (REP 8.28 REP 8.29) |
| 10 | – | Registration Chute Assembly (P/O PL 15.3 Item 1) |
| 11 | – | Harness (P/O PL 15.3 Item 1) |
| 12 | – | Gear (P/O PL 15.3 Item 1) |
| 13 | – | Chute Support (P/O PL 15.3 Item 1) |
| 14 | 802K25970 | Front Cover |
| 15 | – | Rail Assembly (P/O PL 15.3 Item 1) |
| 16 | – | Stopper (P/O PL 15.3 Item 1) |
| 17 | – | Stopper (P/O PL 15.3 Item 1) |
| 18 | – | Plate Guide (P/O PL 15.3 Item 1) |
| 19 | – | Spring (P/O PL 15.3 Item 1) |
| 20 | – | Bearing (P/O PL 15.3 Item 1) |
| 21 | – | Pulley (P/O PL 15.3 Item 1) |
| 22 | – | Stopper (P/O PL 15.3 Item 1) |
| 23 | 019E34500 | Sheet Clamp |
| 24 | – | Alignment Chute (Not Spared) |
| 25 | – | Antistatic Brush (Not Spared) |
| 26 | – | Bracket (Not Spared) |



# PL 15.4 Duplex Assembly (4 of 7)

| Item | Part | Description |
|---|---|---|
| 1 | – | Chute (P/O PL 15.3 Item 1) |
| 2 | 022K57481 | Registration Roll |
| 3 | – | Spring (P/O PL 15.3 Item 1) |
| 4 | – | Bracket (P/O PL 15.3 Item 1) |
| 5 | – | Shaft (P/O PL 15.3 Item 1) |
| 6 | 121K22260 | Duplex Drive Clutch (REP 8.30) |
| 7 | – | Gear (P/O PL 15.3 Item 1) |
| 8 | – | Collar (P/O PL 15.3 Item 1) |
| 9 | – | Gear (P/O PL 15.3 Item 1) |
| 10 | – | Gear (P/O PL 15.3 Item 1) |
| 11 | – | Coupling (P/O PL 15.3 Item 1) |
| 12 | – | Gear (P/O PL 15.3 Item 1) |
| 13 | – | Gear (P/O PL 15.3 Item 1) |
| 14 | – | Gear (P/O PL 15.3 Item 1) |
| 15 | 023E19270 | Rear Belt (REP 8.32) |
| 16 | 023E19280 | Front Belt (REP 8.31) |
| 17 | 019E34500 | Clamp-Sheet |
| 18 | – | Plate Guide (P/O PL 15.3 Item 1) |
| 19 | – | Pulley (P/O PL 15.3 Item 1) |
| 20 | – | Bearing (P/O PL 15.3 Item 1) |
| 21 | – | Bearing (P/O PL 15.3 Item 1) |
| 22 | – | Cable Clamp (Not Spared) |

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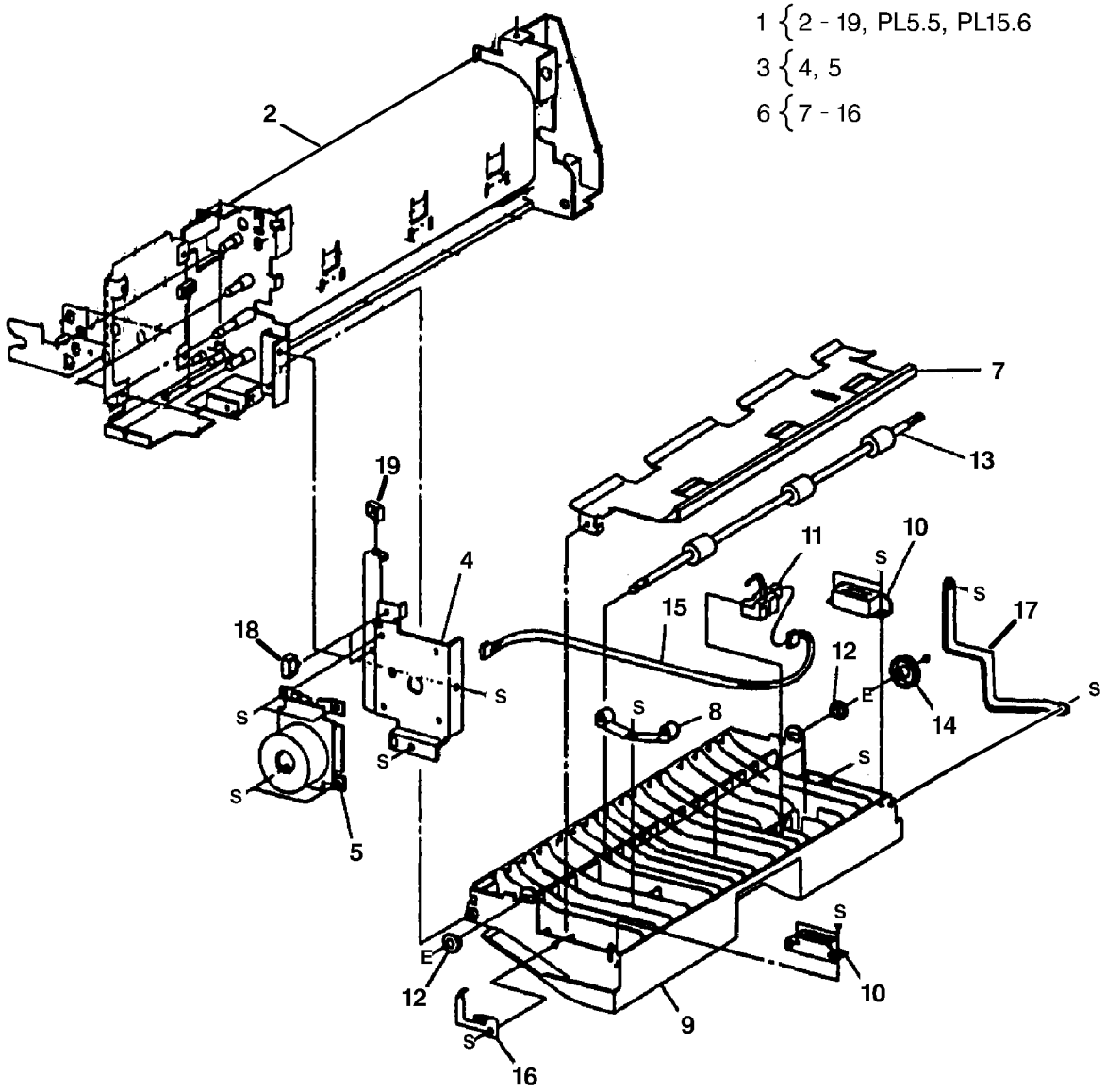
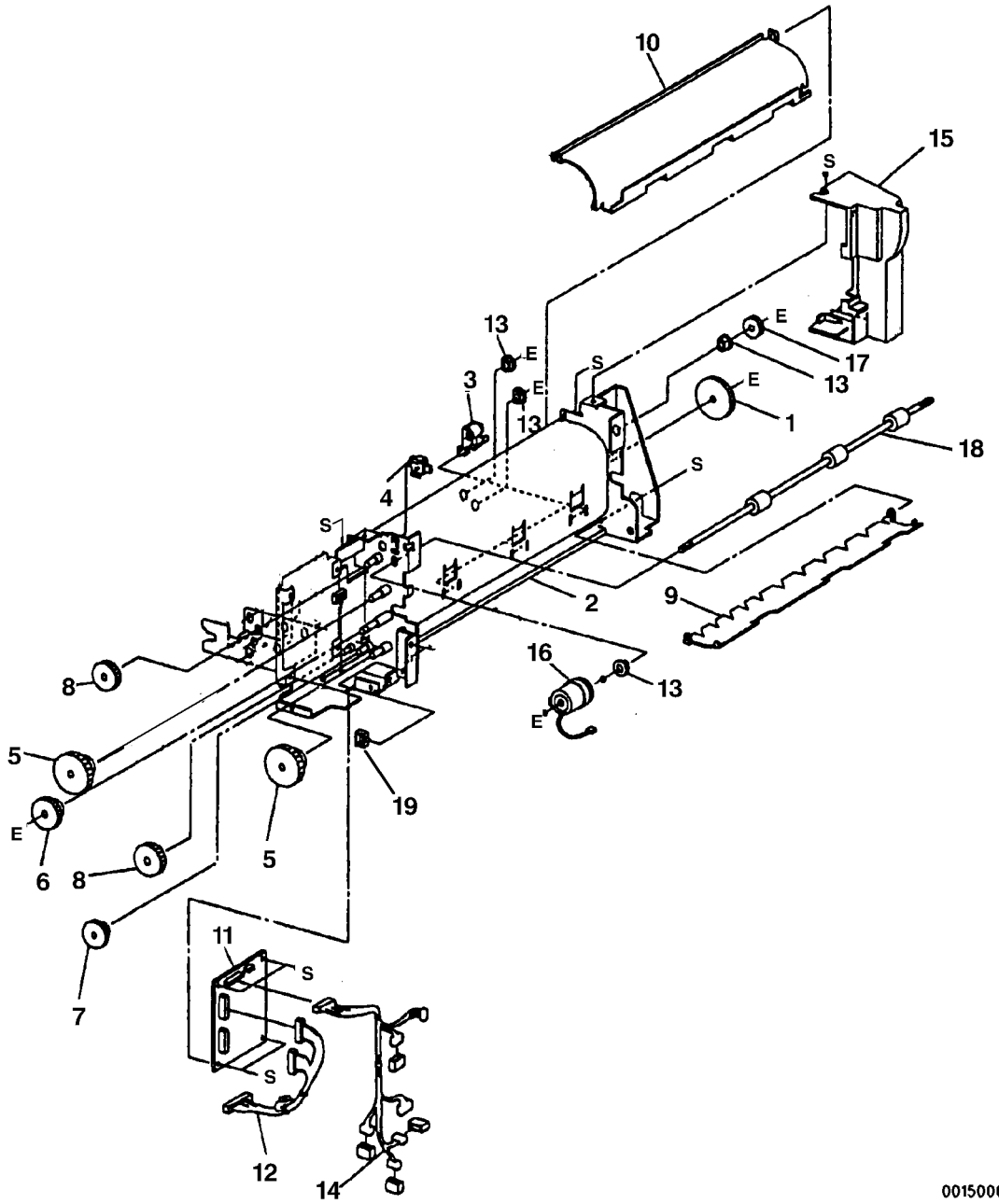
## PL 15.5 Duplex Assembly (5 of 7)

| Item | Part | Description |
|---|---|---|
| 1 | 059K19120 | Inverter Lower Assembly (REP 8.35) |
| 2 | – | Turn Baffle (P/O PL 15.5 Item 1) |
| 3 | – | Inverter Motor Assembly (P/O PL 15.5 Item 1) |
| 4 | – | Bracket (P/O PL 15.5 Item 1) |
| 5 | 127K29160 | Inverter Motor (REP 8.36) |
| 6 | – | Invert Chute Assembly (P/O PL 15.5 Item 1) |
| 7 | – | Chute (P/O PL 15.5 Item 1) |
| 8 | – | Pinch Roll (P/O PL 15.5 Item 1) |
| 9 | – | Inverter Chute (P/O PL 15.5 Item 1) |
| 10 | – | Catch Magnet (P/O PL 15.5 Item 1) |
| 11 | 130E82730 | Inverter Sensor (REP 8.37) |
| 12 | – | Bearing (P/O PL 15.5 Item 1) |
| 13 | 022K57510 | Inverter Roll |
| 14 | – | Gear (P/O PL 15.5 Item 1) |
| 15 | – | Harness (P/O PL 15.5 Item 1) |
| 16 | – | Spring (P/O PL 15.5 Item 1) |
| 17 | 830E56720 | Cover Support |
| 18 | – | Clamp (P/O PL 15.5 Item 1) |
| 19 | – | Cable Clamp (P/O PL 15.5 Item 1) |



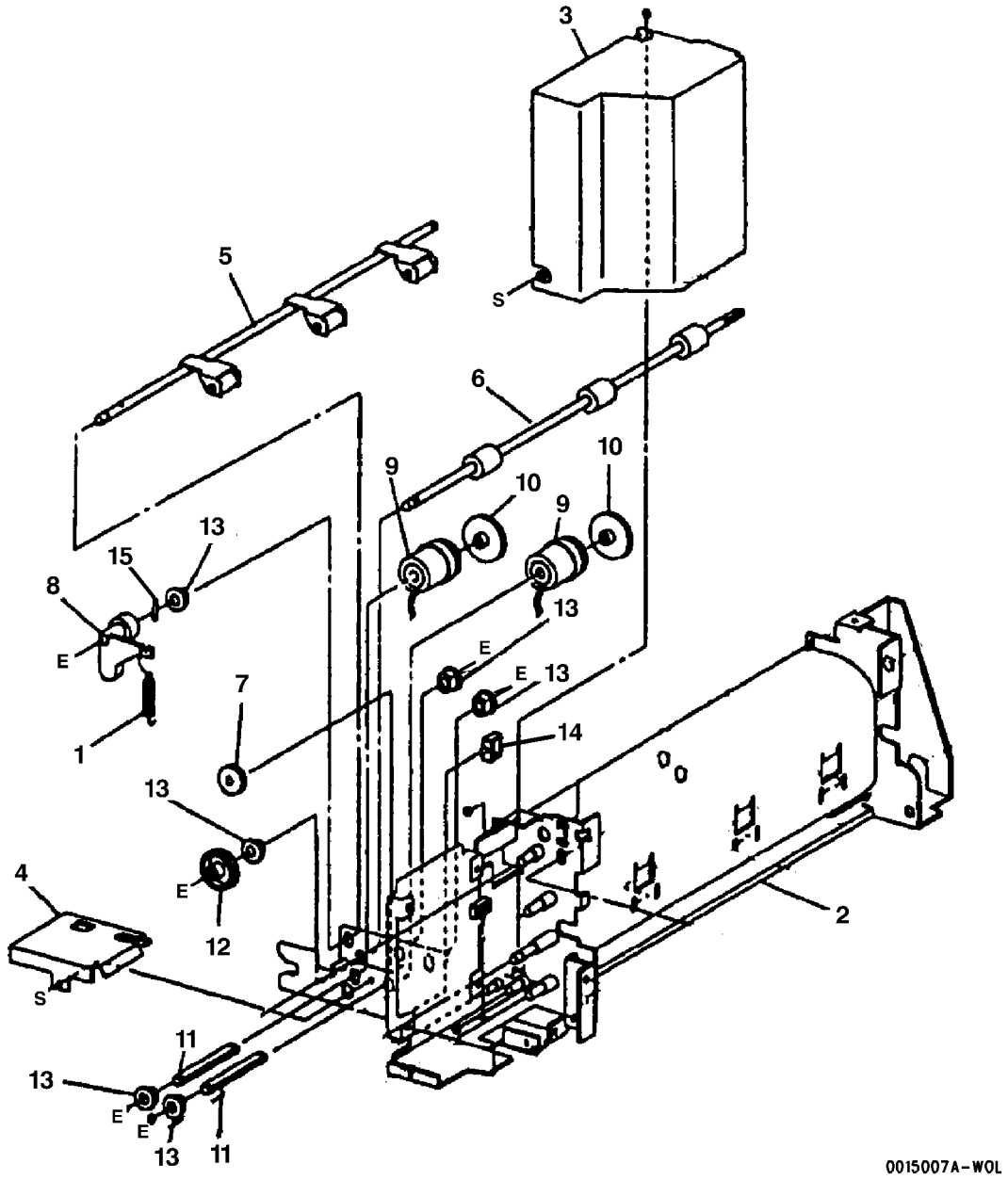
# PL 15.6 Duplex Assembly (6 of 7)

| Item | Part | Description |
|---|---|---|
| 1 | – | Gear (P/O PL 15.5 Item 1) |
| 2 | – | Turn Baffle (P/O PL 15.5 Item 1) |
| 3 | – | Pinch Roll (P/O PL 15.5 Item 1) |
| 4 | 110E93440 | Cab Interlock |
| 5 | – | Gear (P/O PL 15.5 Item 1) |
| 6 | – | Gear (P/O PL 15.5 Item 1) |
| 7 | – | Gear (P/O PL 15.5 Item 1) |
| 8 | – | Gear (P/O PL 15.5 Item 1) |
| 9 | 054K18060 | Baffle |
| 10 | – | Chute (P/O PL 15.5 Item 1) |
| 11 | 160K70540 | Duplex Controller PWB (REP 8.38) |
| 12 | – | Harness (P/O PL 15.5 Item 1) |
| 13 | – | Bearing (P/O PL 15.5 Item 1) |
| 14 | – | Harness (P/O PL 15.5 Item 1) |
| 15 | 802E12181 | Inverter Front Cover |
| 16 | 121K23790 | Inverter Entrance Clutch |
| 17 | – | Gear (P/O PL 15.5 Item 1) |
| 18 | 022K57520 | Inverter Roll |
| 19 | – | Clamp (P/O PL 15.5 Item 1) |



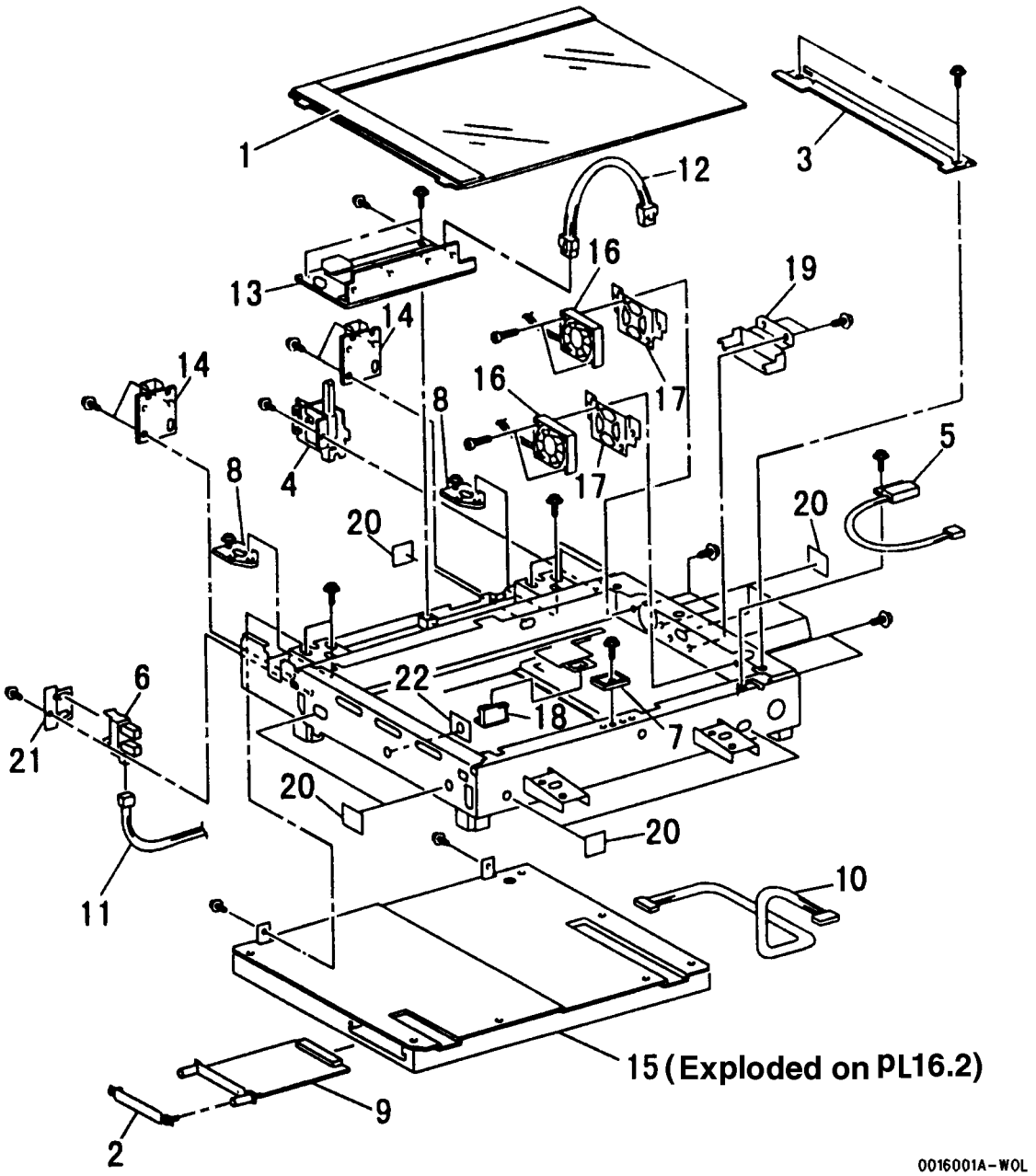
# PL 15.7 Duplex Assembly (7 of 7)

| Item | Part | Description |
|---|---|---|
| 1 | – | Spring (P/O PL 15.5 Item 1) |
| 2 | – | Turn Baffle (P/O PL 15.5 Item 1) |
| 3 | 802E12211 | Rear Inverter Cover |
| 4 | – | Clutch Cover (P/O PL 15.5 Item 1) |
| 5 | – | Pinch Roll (P/O PL 15.5 Item 1) |
| 6 | 022K57500 | Inverter Roll |
| 7 | – | Gear (P/O PL 15.5 Item 1) |
| 8 | – | Link (P/O PL 15.5 Item 1) |
| 9 | 121K23790 | Reverse Clutch, Foward Clutch |
| 10 | – | Gear (P/O PL 15.5 Item 1) |
| 11 | – | Shaft (P/O PL 15.5 Item 1) |
| 12 | – | Gear (P/O PL 15.5 Item 1) |
| 13 | – | Bearing (P/O PL 15.5 Item 1) |
| 14 | – | Clamp (P/O PL 15.5 Item 1) |
| 15 | – | Pinch Roll Shaft Pin (P/O PL 15.5 Item 1) |



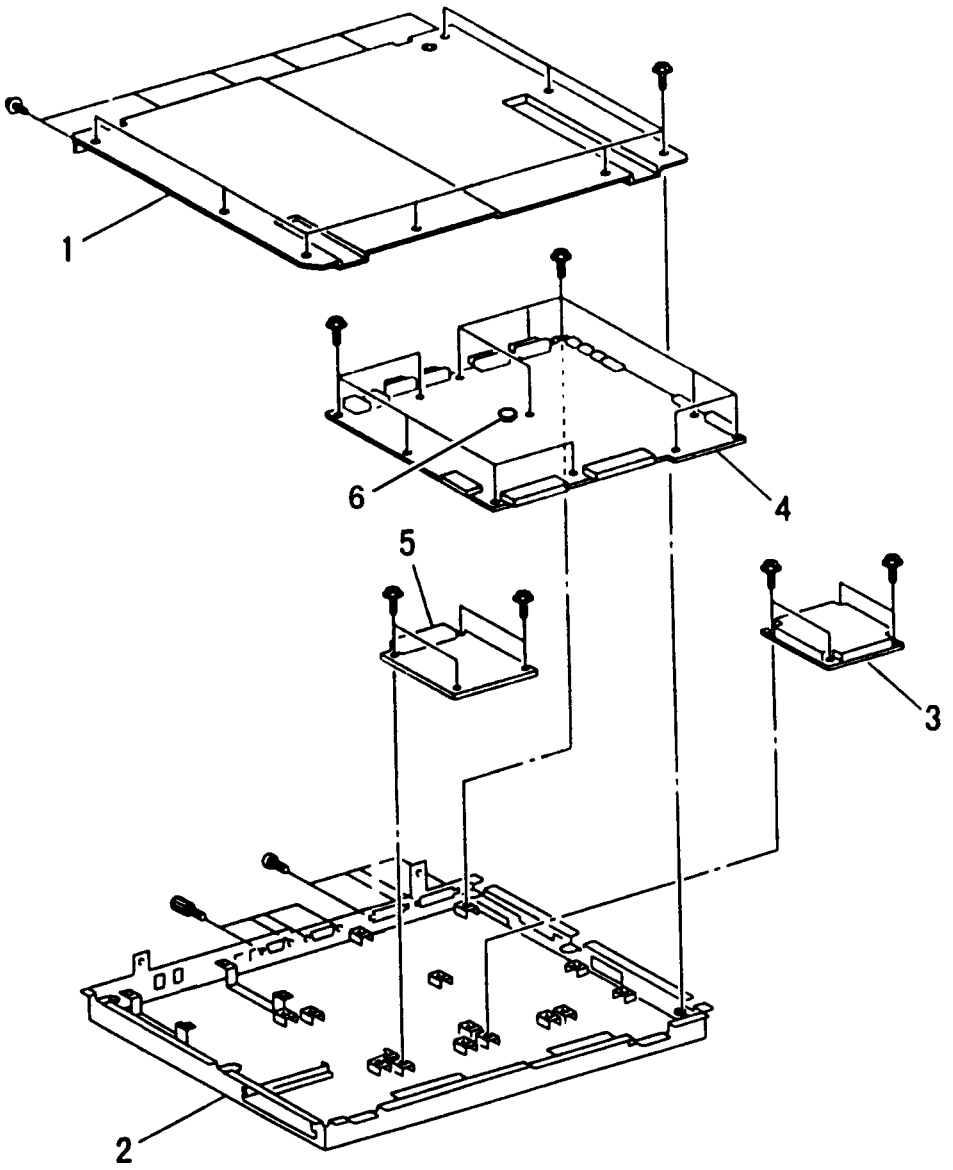
## PL 16.1 Platen Glass and IIT

| Item | Part | Description |
|---|---|---|
| 1 | 090K92740 | Platen Glass (REP 6.1) |
| 2 | – | Bracket (Not Spared) |
| 3 | – | Right Plate (Not Spared) |
| 4 | 130K61001 | Angle Sensor (REP 6.5) |
| 5 | 110K94900 | Platen Switch (REP 6.6) |
| 6 | 130K61010 | IIT Registration Sensor (REP 6.7) |
| 7 | 068E10210 | Support |
| 8 | – | Bracket (Not Spared) |
| 9 | 160K69840 | Advanced Features Memory PWB (REP 6.16) |
| 10 | 162K60970 | Harness |
| 11 | 162K56420 | Sensor Harness |
| 12 | 162K56430 | Harness |
| 13 | 105K18750 | IIT LVPS 110v (REP 6.8) |
| – | 105K18760 | IIT LVPS 220v (REP 6.8) |
| 14 | – | Guide (Not Spared) |
| 15 | – | PWB Box (Not Spared) (REP 6.11) |
| 16 | 127K29440 | Fan (REP 6.9) |
| 17 | – | Bracket (Not Spared) |
| 18 | 130K58120 | APS Sensor (REP 6.10) |
| 19 | – | Cover (Not Spared) |
| 20 | – | Guard (Not Spared) |
| 21 | – | Bracket (Not Spared) |
| 22 | – | Damper (Not Spared) |



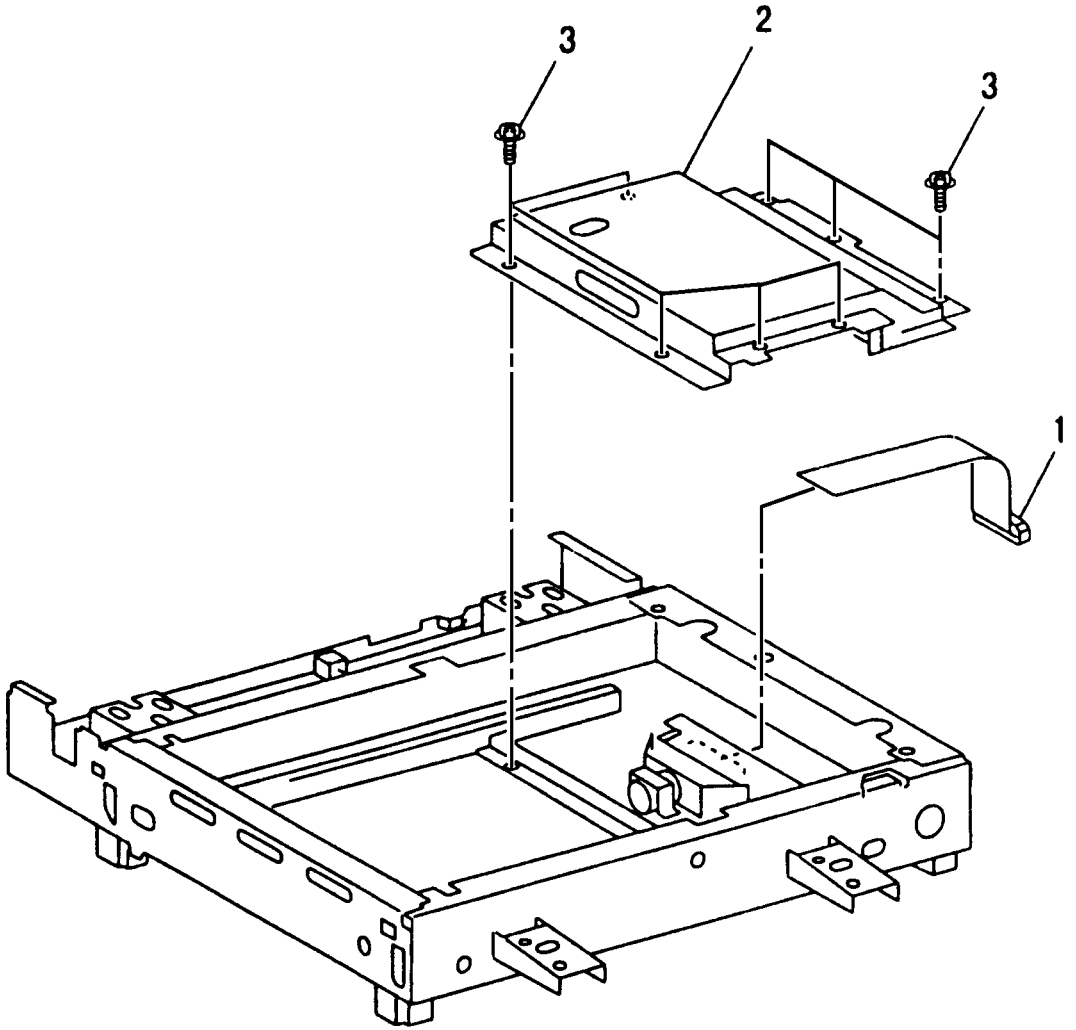
## PL 16.2 PWB Box

| Item | Part | Description |
|---|---|---|
| 1 | – | PWB Box Cover (Not Spared) |
| 2 | – | Lower Box (Not Spared) |
| 3 | 160K67840 | IPS PWB (REP 6.13) |
| 4 | 160K69571 | ICM Main PWB (REP 6.14 ADJ 6.5) |
| 5 | 160K62210 | Extension PWB (REP 6.15) |
| 6 | – | IIT ICM PWB Lithium Battery (Not Spared) |



## PL 16.3 CCD

| Item | Part | Description |
|---|---|---|
| 1 | 160K67350 | FPC Cable |
| 2 | – | Cover (Not Spared) |
| 3 | – | Screw (Not Spared) |

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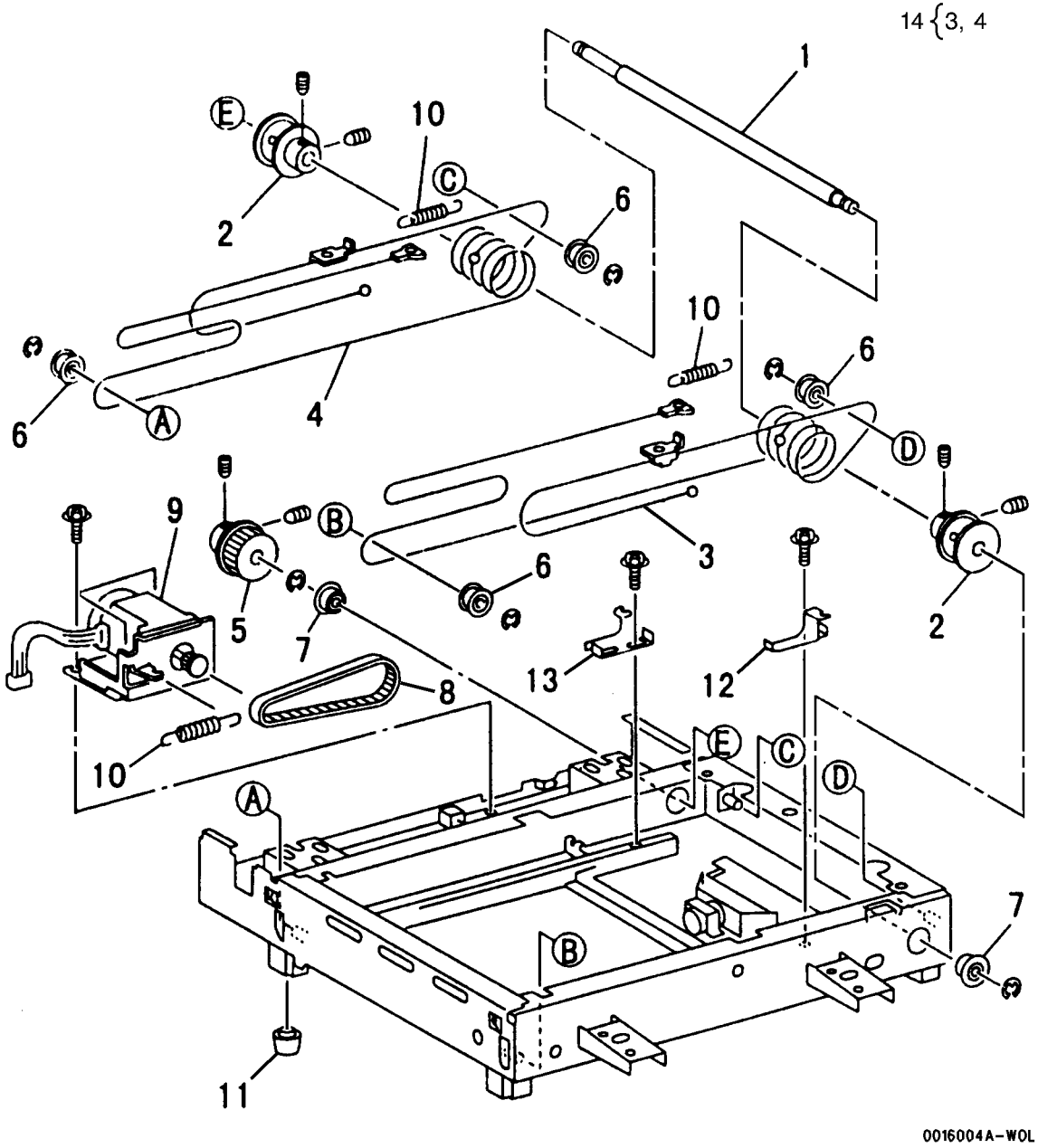
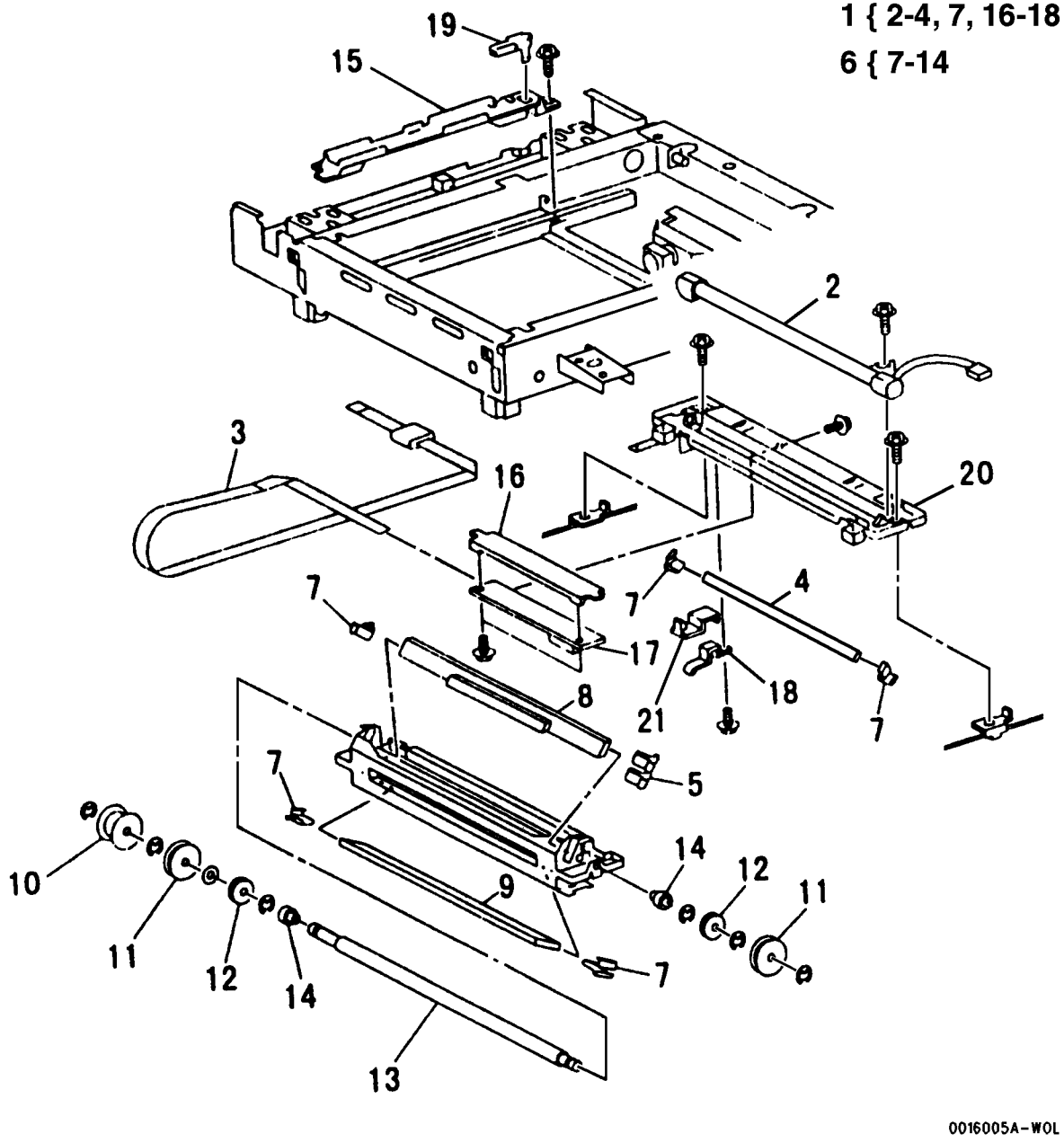
## PL 16.4 Carriage Motor and Carriage Cable

| Item | Part | Description |
|---|---|---|
| 1 | – | Drive Shaft (Not Spared) |
| 2 | – | Pulley (Not Spared) |
| 3 | – | Front Cable (P/O PL 16.4 Item 14) (REP 6.17 ADJ 6.2) |
| 4 | – | Rear Cable (P/O PL 16.4 Item 14) (REP 6.17 ADJ 6.2) |
| 5 | 020E33800 | Pulley |
| 6 | 020K94970 | Pulley |
| 7 | 413W10350 | Bearing |
| 8 | 023E19320 | Belt |
| 9 | 127K29610 | Carriage Motor (REP 6.18) |
| 10 | 009E62830 | Spring |
| 11 | 017E92060 | Foot |
| 12 | – | Front Bracket (Not Spared) |
| 13 | – | Rear Bracket (Not Spared) |
| 14 | 600K85730 | IIT Cable Kit (ADJ 6.2) |



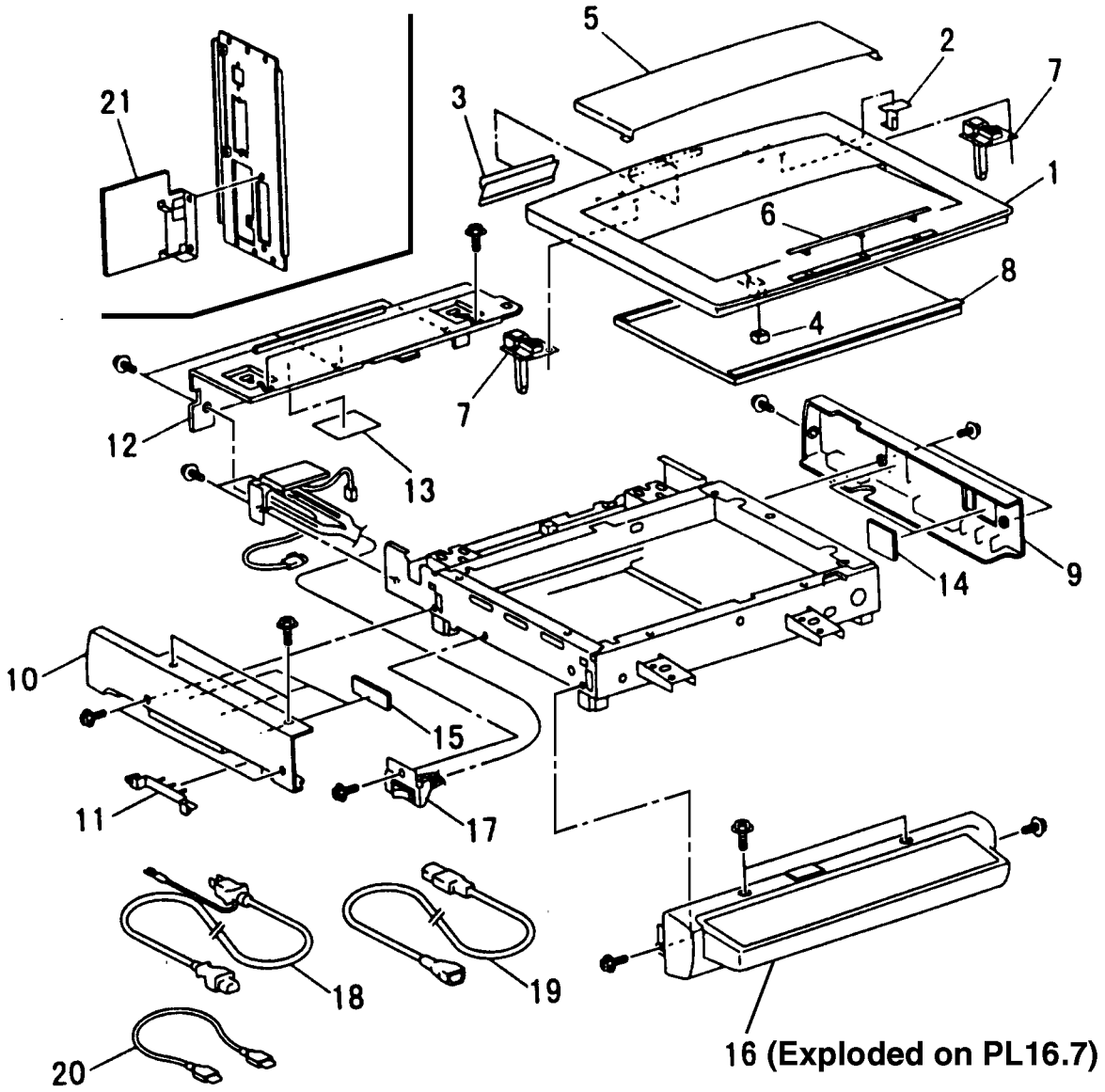
# PL 16.5 Full Rate Carriage and Half Rate Carriage

| Item | Part | Description |
|---|---|---|
| 1 | 041K94070 | Full Rate Carriage Assembly (REP 6.21 ADJ 6.2) |
| 2 | 122E91950 | Lamp (REP 6.20) |
| 3 | 117E19831 | Ribbon Cable |
| 4 | – | No. 1 Mirror (P/O PL 16.5 Item 1) |
| 5 | – | Clip (Not Spared) |
| 6 | 041K94100 | Half Rate Carriage Assembly (ADJ 6.2) |
| 7 | – | Clip (P/O PL 16.5 Item 1) |
| 8 | – | No. 2 Mirror (P/O PL 16.5 Item 6) |
| 9 | – | No. 3 Mirror (P/O PL 16.5 Item 6) |
| 10 | – | Pulley (P/O PL 16.5 Item 6) |
| 11 | – | Pulley (P/O PL 16.5 Item 6) |
| 12 | – | Pulley (P/O PL 16.5 Item 6) |
| 13 | – | Shaft (P/O PL 16.5 Item 6) |
| 14 | 004E06560 | Bearing |
| 15 | – | Guide (Not Spared) |
| 16 | – | Insulator (P/O PL 16.5 Item 1) |
| 17 | 105E10010 | FLPS PWB (REP 6.22) |
| 18 | – | Guide (P/O PL 16.5 Item 1) |
| 19 | – | Clamp (Not Spared) |
| 20 | – | Carriage (Not Spared) |
| 21 | – | Clamp (Not Spared) |



## PL 16.6 Top Cover and Control Panel

| Item | Part | Description |
|---|---|---|
| 1 | 802K14870 | Platen Cover |
| 2 | – | Actuator (Not Spared) |
| 3 | – | Stopper (Not Spared) |
| 4 | – | Magnet (Not Spared) |
| 5 | 048E18040 | Pocket Cover |
| 6 | – | Handle (Not Spared) |
| 7 | 003E52460 | Hinge |
| 8 | 004K92440 | Cushion |
| 9 | 802K13810 | Right Cover (REP 6.2) |
| 10 | 802K13821 | Left Cover (REP 6.3) |
| 11 | – | Side Cover (Not Spared) |
| 12 | 802K13831 | Rear Cover (REP 6.4) |
| 13 | – | Sheet (Not Spared) |
| 14 | – | Filter (Not Spared) |
| 15 | – | Filter (Not Spared) |
| 16 | 802K16900 | Control Panel Assembly 110v (REP 6.23) |
| – | 802K16910 | Control Panel Assembly 220v (REP 6.23) |
| 17 | 162K56731 | AC Switch/Harness |
| 18 | 117K31200 | Power Cord |
| 19 | – | Power Cord (Not Spared) |
| 20 | 162K60280 | Cable 1.0m |
| 21 | – | I/F PWB (Not Spared) |

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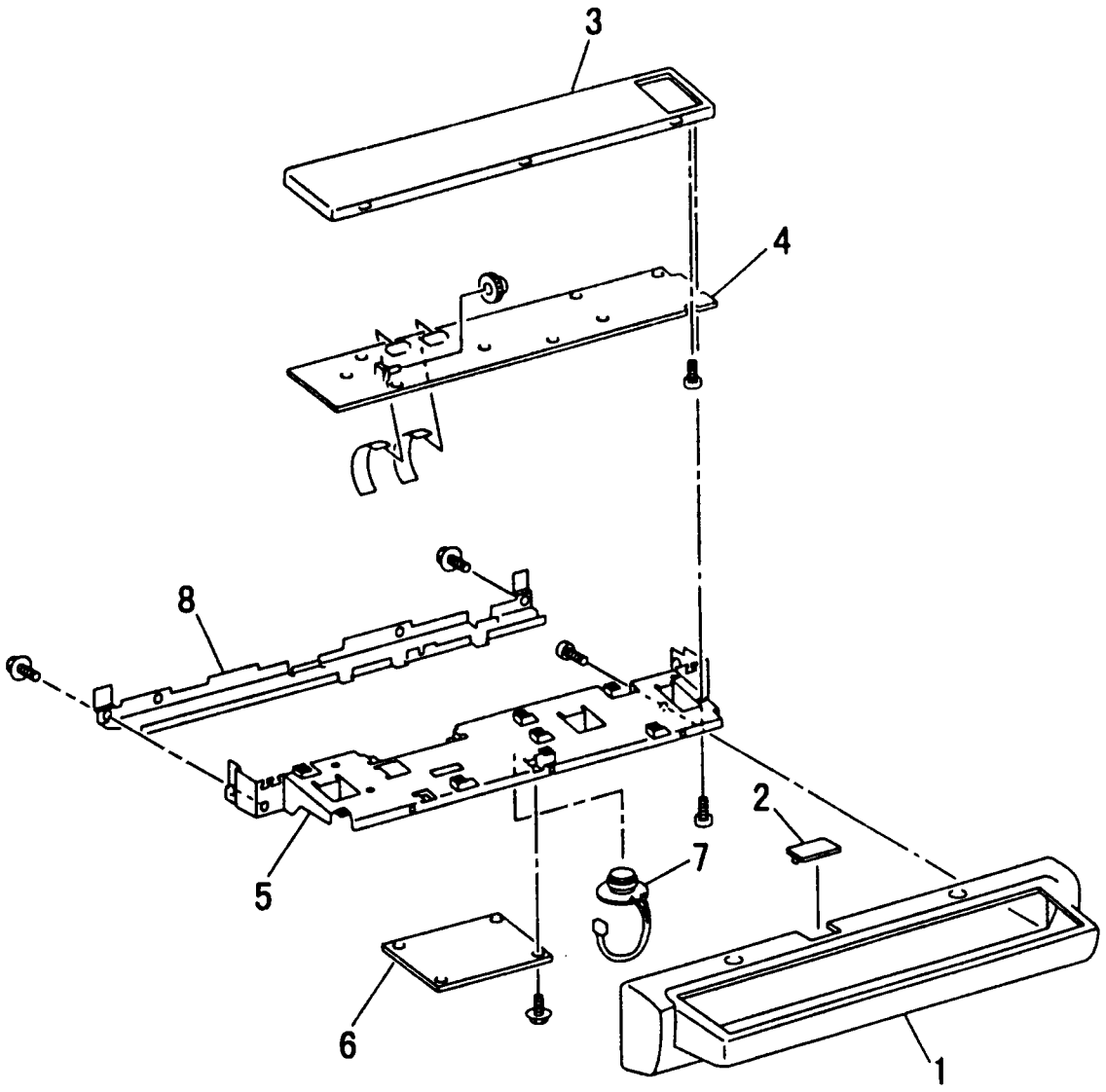
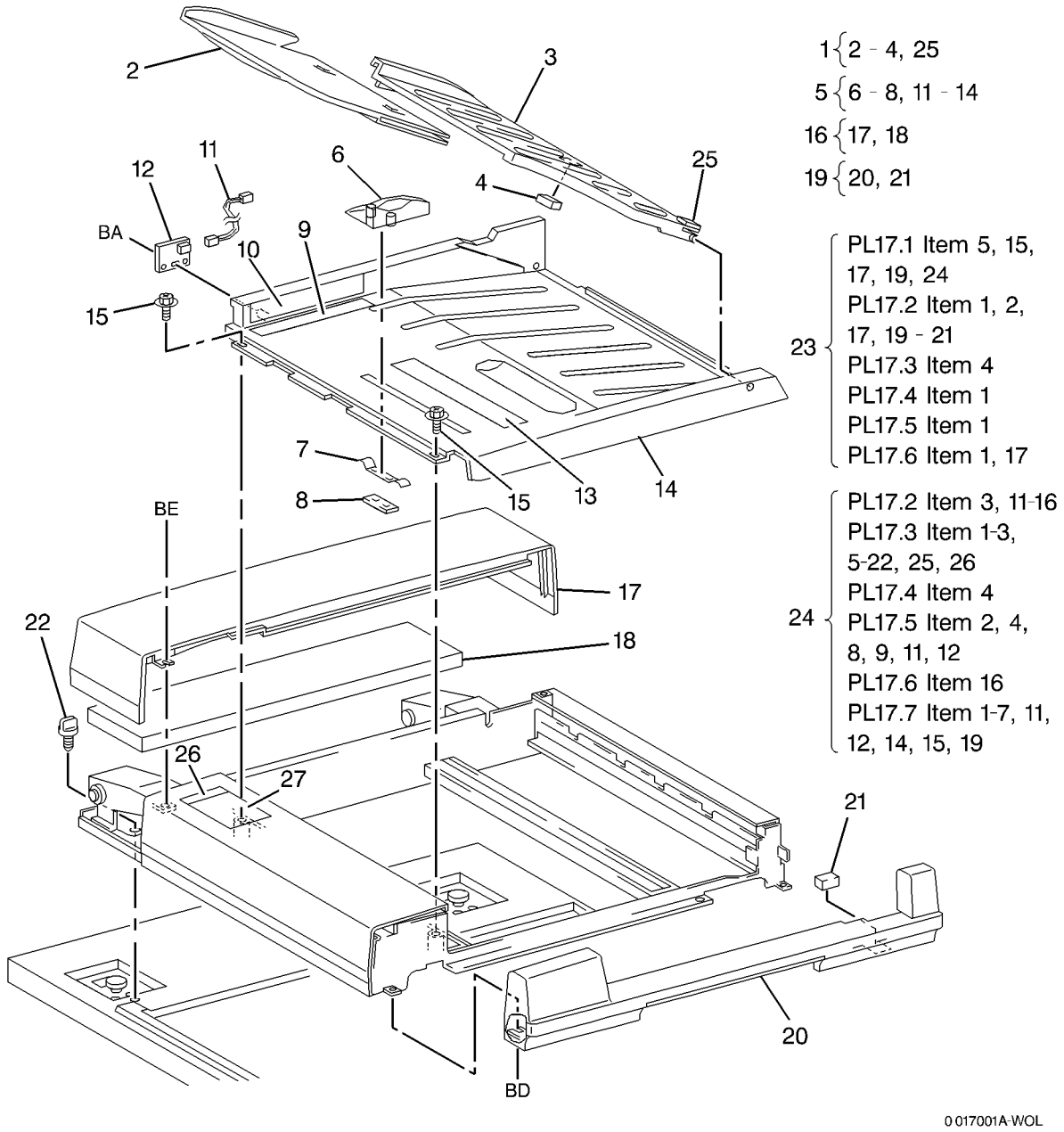
# PL 16.7 Control Panel Assembly

| Item | Part | Description |
|---|---|---|
| 1 | – | Front Cover (Not Spared) |
| 2 | – | Cover (Not Spared) |
| 3 | – | Panel Cover (Not Spared) |
| 4 | – | Panel PWB (Not Spared) |
| 5 | – | Frame (Not Spared) |
| 6 | – | Control Panel PWB (Not Spared) |
| 7 | – | Speaker (Not Spared) |
| 8 | – | Stopper (Not Spared) |



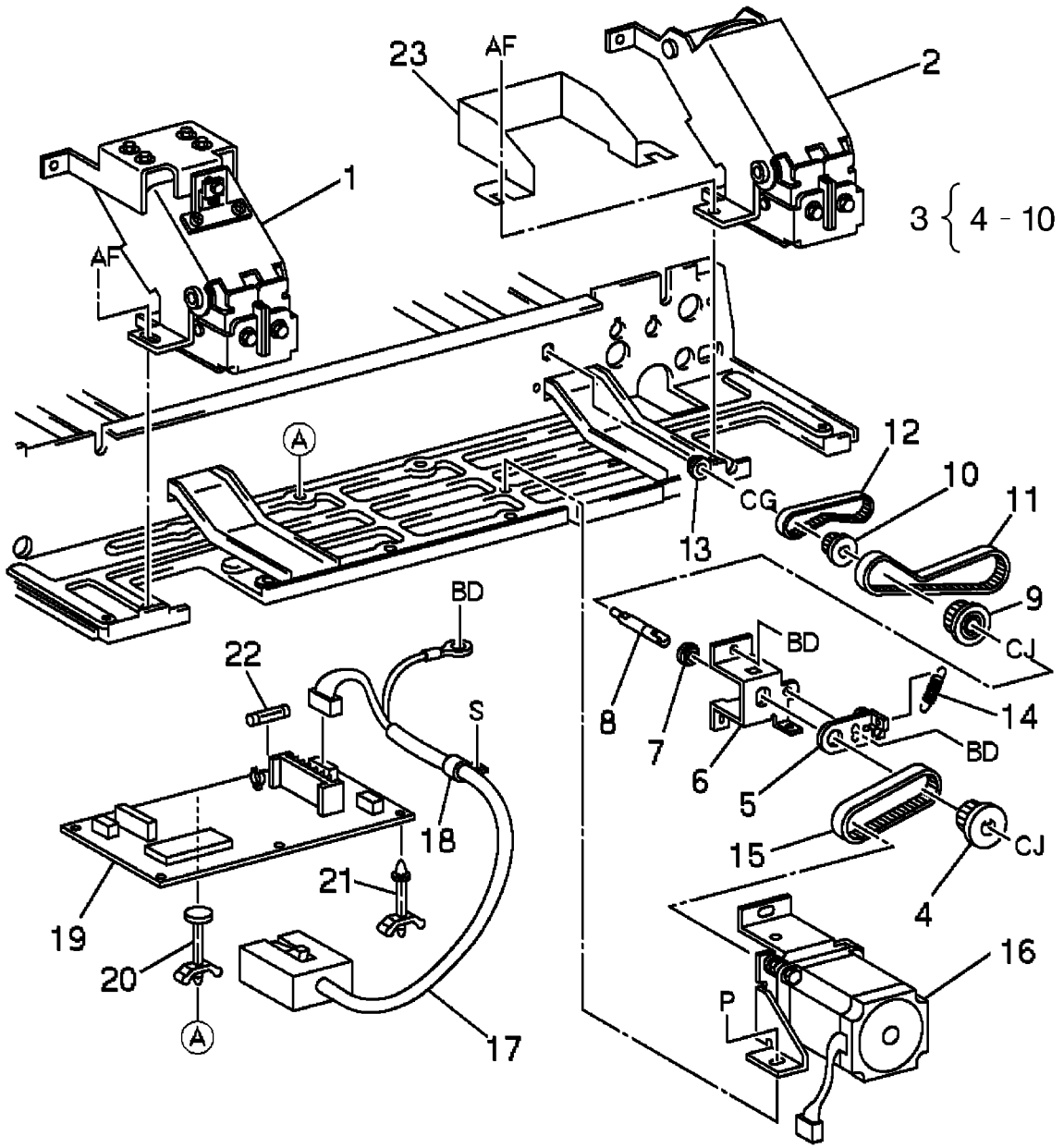
# PL 17.1 Document Exit Tray, Covers

| Item | Part | Description |
|---|---|---|
| 1 | 050K41980 | Document Exit Tray Assembly |
| 2 | – | Exit Tray Extension (P/O PL 17.1 Item 1) |
| 3 | – | Exit Tray (P/O PL 17.1 Item 1) |
| 4 | 121E90640 | Interlock Magnet |
| 5 | 050K42110 | Entrance Tray Assembly |
| 6 | – | Document Guide (P/O PL 17.1 Item 5) |
| 7 | – | Spring (P/O PL 17.1 Item 5) |
| 8 | – | Plate (P/O PL 17.1 Item 5) |
| 9 | 892E19630 | Label |
| 10 | 892E19620 | Label |
| 11 | 152K63490 | Harness |
| 12 | 140K60480 | Document Set Indicator |
| 13 | 892E19610 | Label (Size) |
| 14 | – | Entrance Tray (P/O PL 17.1 Item 5) |
| 15 | 026P63574 | Screw |
| 16 | – | Rear Cover Assembly (Not Spared) |
| 17 | – | Cover (Not Spared) |
| 18 | – | Seal (Not Spared) |
| 19 | 802K14670 | Front Cover Assembly |
| 20 | – | Cover (P/O PL 17.1 Item 19) |
| 21 | – | Magnet (P/O PL 17.1 Item 19) |
| 22 | 003K91881 | Thumb Screw |
| 23 | 059K17851 | ADF Main Feeder Assembly |
| 24 | 059K16181 | Feeder Assembly |
| 25 | – | Magnet (P/O PL 17.1 Item 1) |
| 26 | – | Label Fax (Not Spared) |
| 27 | – | Label Caution (Not Spared) |
| 28 | – | ADF Assembly (REP 5.1 ADJ 5.1 ADJ 5.2 ADJ 5.3 ADJ 5.4 ) |



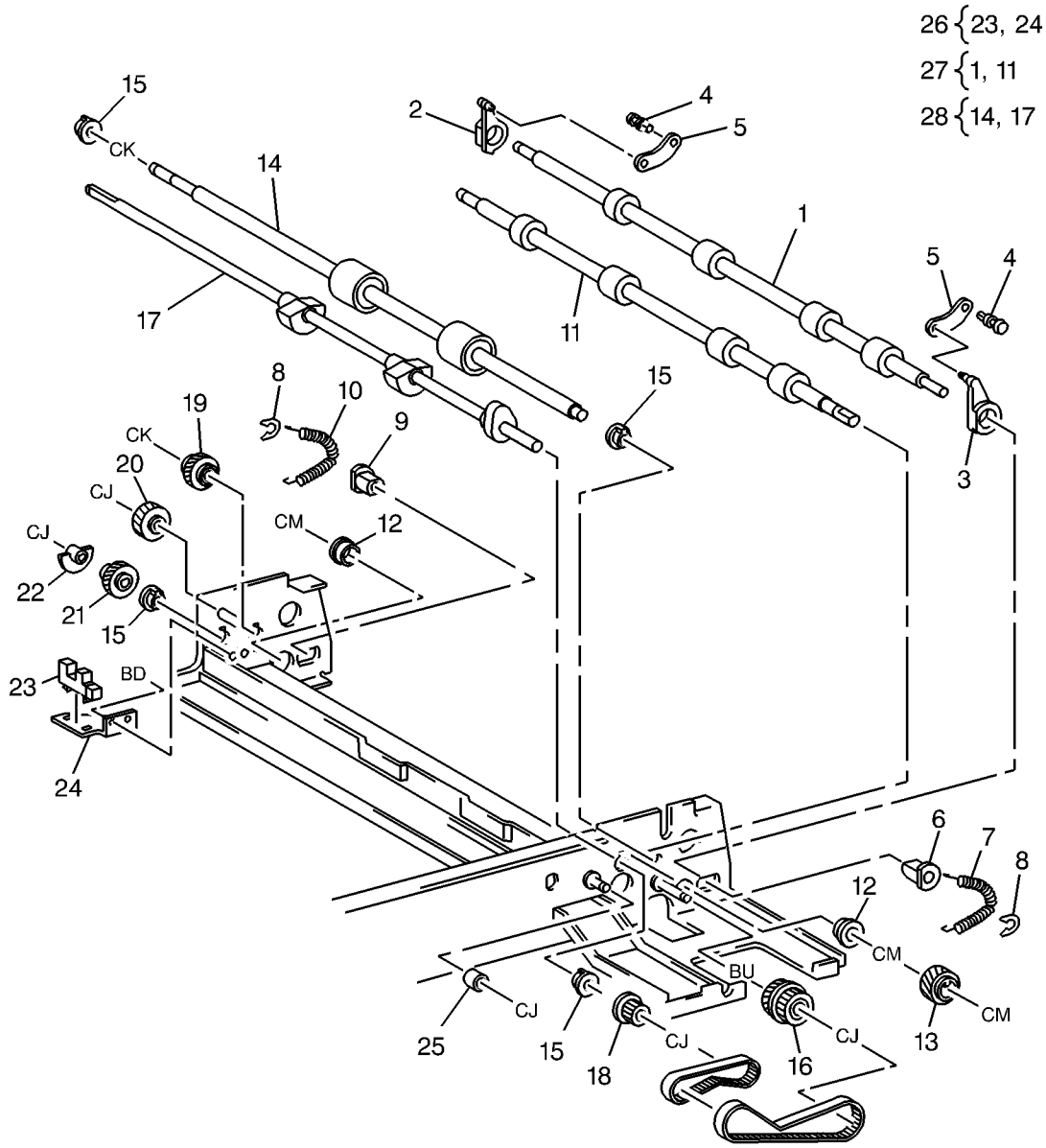
# PL 17.2 Counterbalance, Drive Motor, PWB

| Item | Part | Description |
|---|---|---|
| 1 | 036K90900 | Right Counterbalance (REP 5.3 ADJ 5.1 ADJ 5.2 ADJ 5.3) |
| 2 | 036K90890 | Left Counterbalance (REP 5.3 ADJ 5.1 ADJ 5.2 ADJ 5.3) |
| 3 | 020K93320 | Pulley Assembly |
| 4 | 020E16180 | Pulley |
| 5 | 068K78200 | Bracket |
| 6 | – | Bracket (P/O PL 17.2 Item 3) |
| 7 | 013E81880 | Bearing |
| 8 | – | Shaft (P/O PL 17.2 Item 3) |
| 9 | 020K93300 | Pulley |
| 10 | 020E90660 | Pulley |
| 11 | 023E08520 | Belt |
| 12 | 023E08510 | Belt |
| 13 | 013E81940 | Bearing |
| 14 | 009E48250 | Spring |
| 15 | 023E08500 | Belt |
| 16 | 127K29890 | ADF Drive Motor (REP 5.2) |
| 17 | 162K60410 | Drive Harness |
| 18 | – | Clamp (Not Spared) |
| 19 | 160K11571 | ADF Control PWB |
| 20 | – | Support (Not Spared) |
| 21 | – | Support (Not Spared) |
| 22 | 108E93270 | Fuse (4A 125v) |
| 23 | – | Safety Cover (Not Spared) |



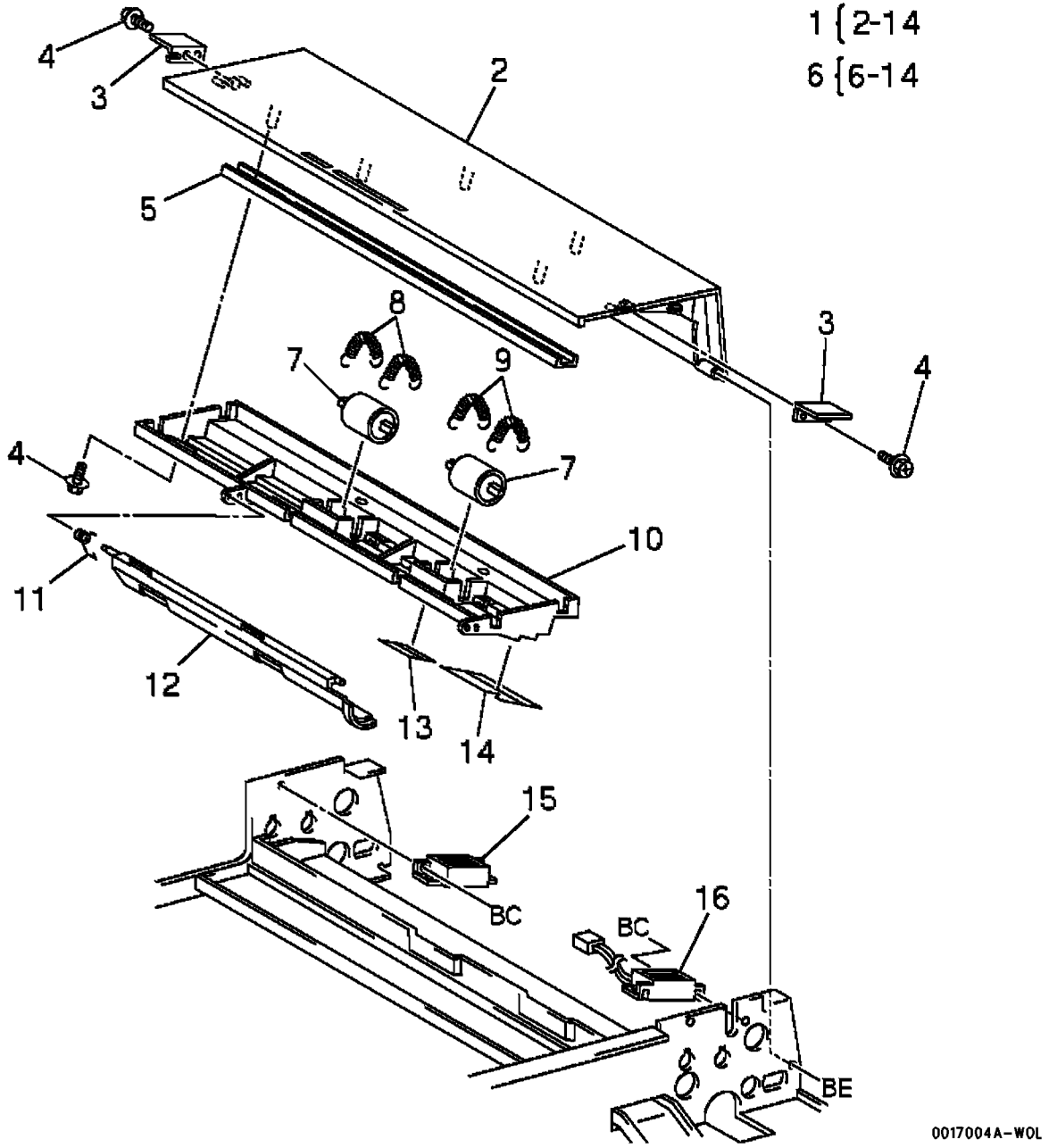
# PL 17.3 Registration,Feed,Nudger Roll, Nudger Home Sensor

| Item | Part | Description |
|---|---|---|
| 1 | – | Registration Pinch Roll (P/O PL 17.3 Item 27) |
| 2 | 008E92010 | Front Cam |
| 3 | 008E92020 | Rear Cam |
| 4 | 019E93510 | Push Rivet |
| 5 | 012E93430 | Link |
| 6 | 013E94561 | Bearing |
| 7 | 009E28580 | Spring |
| 8 | 005E80250 | C-Ring |
| 9 | 013E82290 | Bearing |
| 10 | 009E39080 | Spring |
| 11 | – | ADF Registration Roll (P/O PL 17.3 Item 27) (REP 5.6) |
| 12 | 013E80970 | Bearing |
| 13 | 007E88100 | Gear |
| 14 | – | Feed Roll (P/O PL 17.3 Item 28) (REP 5.4) |
| 15 | 013E81370 | Bearing |
| 16 | 007K91871 | Gear |
| 17 | – | Nudger Roll (P/O PL 17.3 Item 28) (REP 5.5) |
| 18 | 020K93310 | Pulley |
| 19 | 007K81110 | Gear |
| 20 | 007K81980 | Gear |
| 21 | 007E83250 | Gear |
| 22 | 015E32720 | Actuator |
| 23 | 107E06650 | Nudger Home Sensor |
| 24 | – | Bracket (P/O PL 17.3 Item 26) |
| 25 | 059E90580 | Tension Bearing |
| 26 | 130K82790 | Nudger Home Sensor Assembly |
| 27 | 600K99500 | Registration Roll Kit (ADJ 5.1 ADJ 5.2) |
| 28 | 600K99510 | Feed Roll Kit |



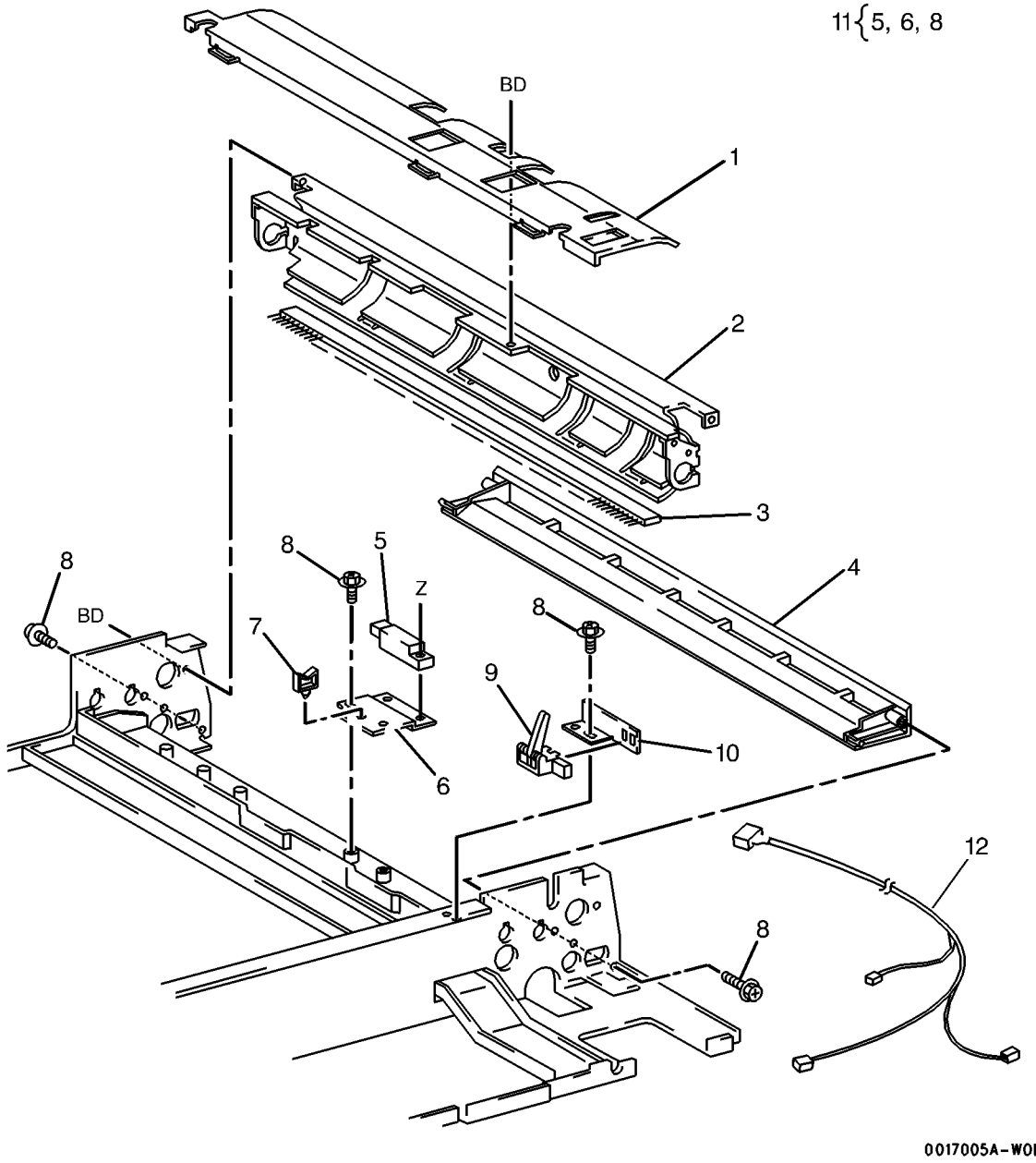
## PL 17.4 Feeder Upper Chute Assembly, Interlock Switch

| Item | Part | Description |
|---|---|---|
| 1 | 802K14680 | ADF Upper Chute Cover Assembly |
| 2 | – | Upper Cover (P/O PL 17.4 Item 1) |
| 3 | – | Plate (P/O PL 17.4 Item 1) |
| 4 | 026E82620 | Screw |
| 5 | – | Plate (P/O PL 17.4 Item 1) |
| 6 | – | Upper Chute Assembly (P/O PL 17.4 Item 1) |
| 7 | 600K84250 | Retard Roll Kit (2/Kit) |
| 8 | 009E26941 | Spring |
| 9 | 009E31711 | Spring |
| 10 | 054E84730 | Upper Chute |
| 11 | 009E64490 | Spring |
| 12 | – | Nudger Chute (P/O PL 17.4 Item 1) |
| 13 | – | Guard (P/O PL 17.4 Item 1) |
| 14 | – | Guard (P/O PL 17.4 Item 1) |
| 15 | 121E90450 | Magnet |
| 16 | 110K94790 | Feeder Cover Interlock |



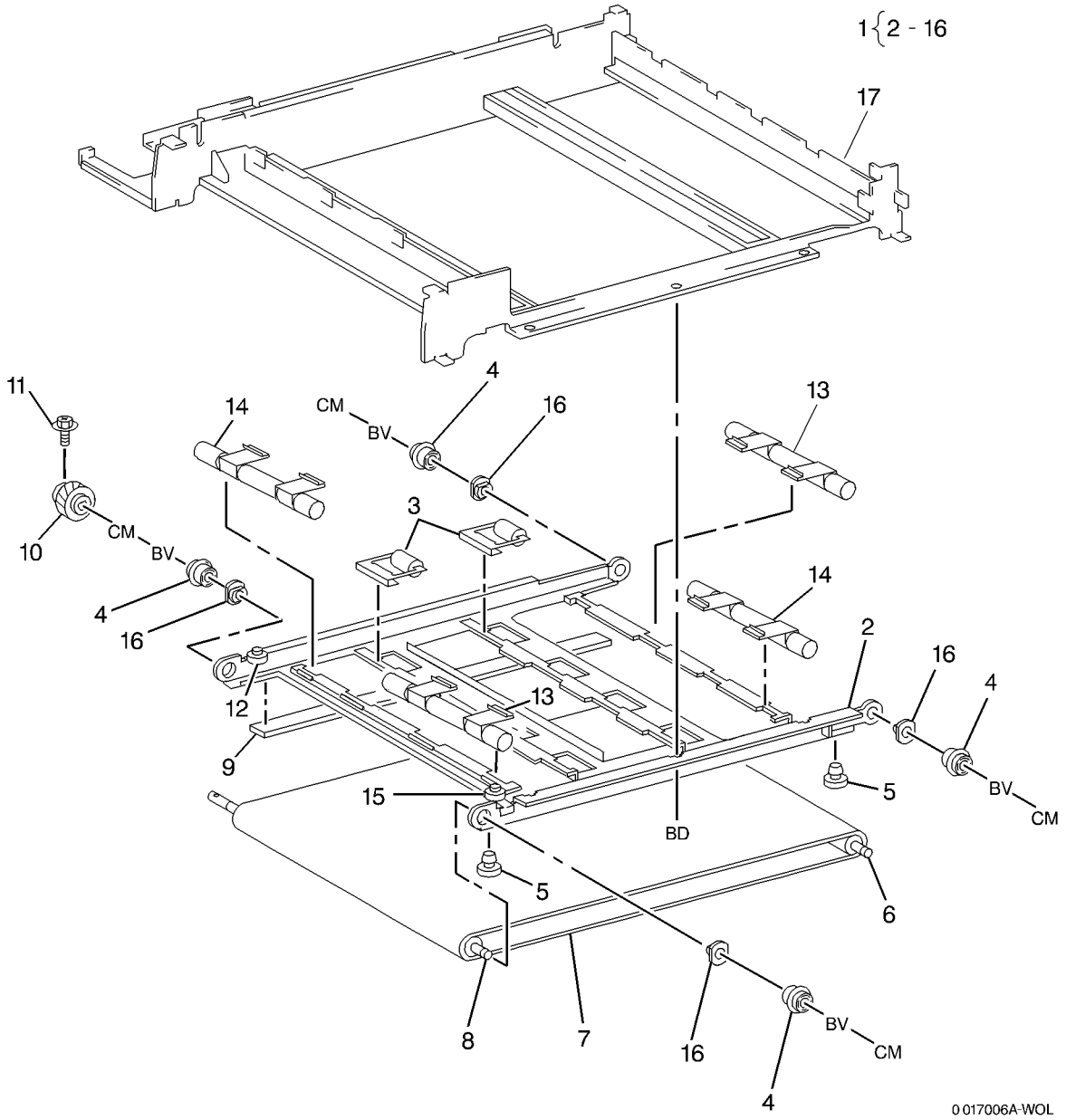
# PL 17.5 Feeder Lower Chute, Registration Sensor

| Item | Part | Description |
|---|---|---|
| 1 | – | Lower Chute (Not Spared) |
| 2 | – | Registration Chute (Not Spared) |
| 3 | 105E92310 | Antistatic Brush |
| 4 | 002E61020 | Lower Cover |
| 5 | 130E81150 | ADF Registration Sensor (ADJ 5.4) |
| 6 | – | Bracket (P/O PL 17.5 Item 11) |
| 7 | – | Clamp (Not Spared) |
| 8 | 026E82620 | Screw |
| 9 | 130K82780 | Document Set Sensor (ADJ 5.4) |
| 10 | – | Bracket (Not Spared) |
| 11 | 130K61380 | Registration Sensor Assembly (ADJ 5.4) |
| 12 | – | Harness (Not Spared) |



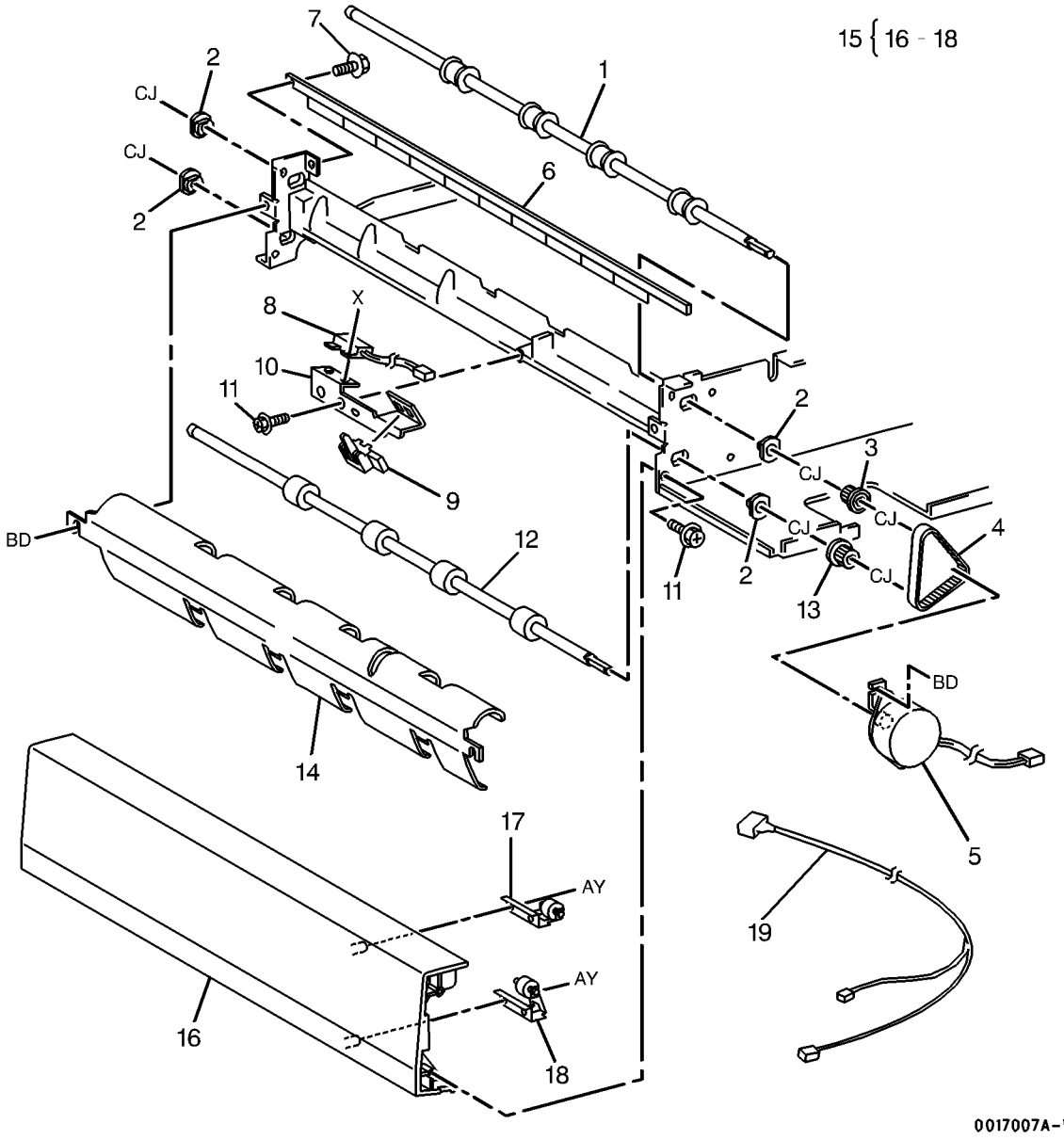
# PL 17.6 Document Transport, Platen Belt

| Item | Part | Description |
|---|---|---|
| 1 | – | Document Transport Assembly (Not Spared) (REP 5.7 ADJ 5.4) |
| 2 | – | Transport Frame (Not Spared) |
| 3 | 059K13440 | Pinch Roll |
| 4 | – | Collar (Not Spared) |
| 5 | 004E98270 | Damper |
| 6 | 022K39710 | Idler Roll |
| 7 | 023E15690 | Platen Belt |
| 8 | 022K39700 | Drive Roll |
| 9 | – | Deflector (Not Spared) |
| 10 | 007E83141 | Gear |
| 11 | – | Screw (Not Spared) |
| 12 | – | Rear Roll (Not Spared) |
| 13 | – | Roll No 1 (Not Spared) |
| 14 | – | Roll No 2 (Not Spared) |
| 15 | – | Front Roll (Not Spared) |
| 16 | 013E80970 | Bearing |
| 17 | – | ADF Main Framie (Not Spared) |



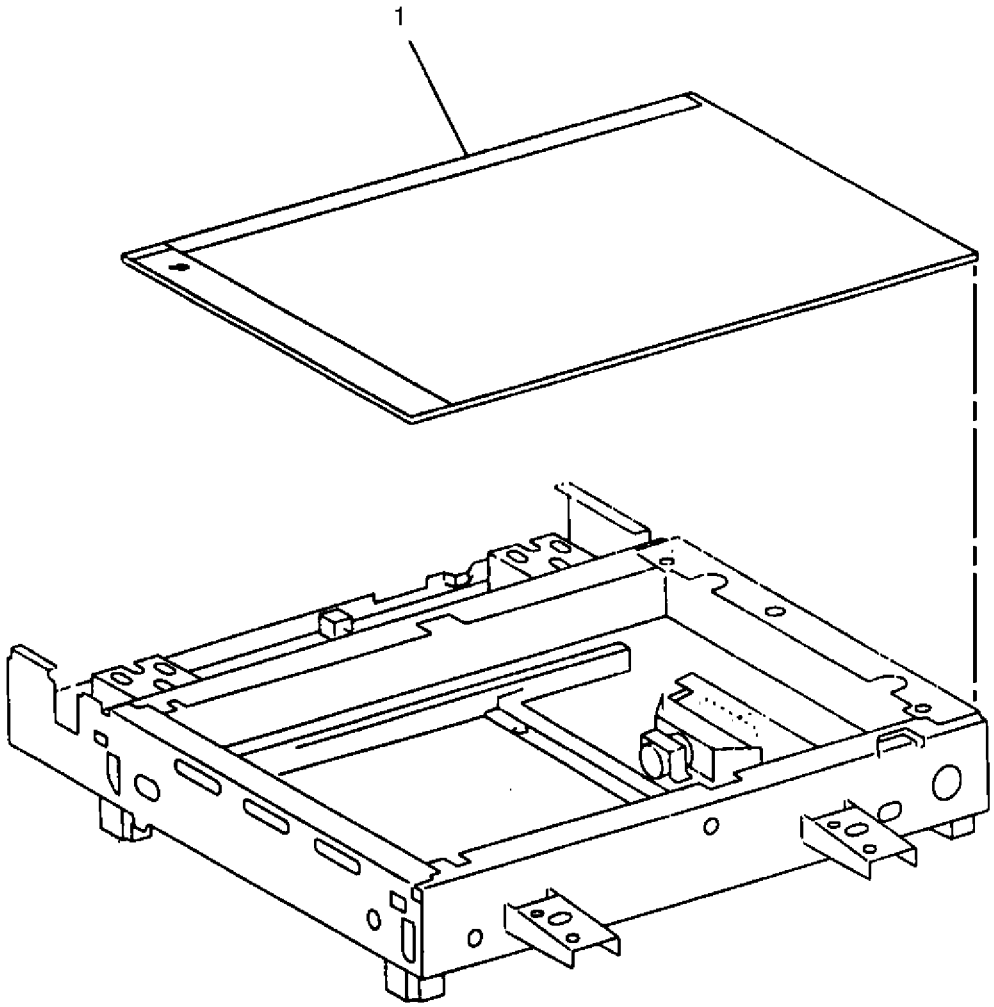
# PL 17.7 Exit Roll, Exit Motor, Exit Sensor

| Item | Part | Description |
|---|---|---|
| 1 | 059K91200 | Upper Exit Roll |
| 2 | 013E92760 | Bearing |
| 3 | 020E93230 | Pulley |
| 4 | 023E15810 | Belt |
| 5 | 127K25420 | ADF Exit Motor (REP 5.9) |
| 6 | 105E94661 | Antistatic Brush |
| 7 | 026E17760 | Screw |
| 8 | 110K94420 | Exit Tray Interlock (REP 5.10) |
| 9 | 130K83020 | ADF Exit Sensor (REP 5.10) |
| 10 | – | Bracket (Not Spared) |
| 11 | 026E82620 | Screw |
| 12 | 059K13330 | Lower Exit Roll |
| 13 | – | Pulley (Not Spared) |
| 14 | – | Exit Chute (Not Spared) |
| 15 | 054K87731 | Exit Chute Cover Assembly |
| 16 | – | Exit Chute Cover (P/O PL 17.7 Item 15) |
| 17 | 022K30330 | Pinch Roll |
| 18 | 022K30360 | Pinch Roll |
| 19 | – | Harness (Not Spared) |



# PL 17.8 Platen Glass, ADF Harness

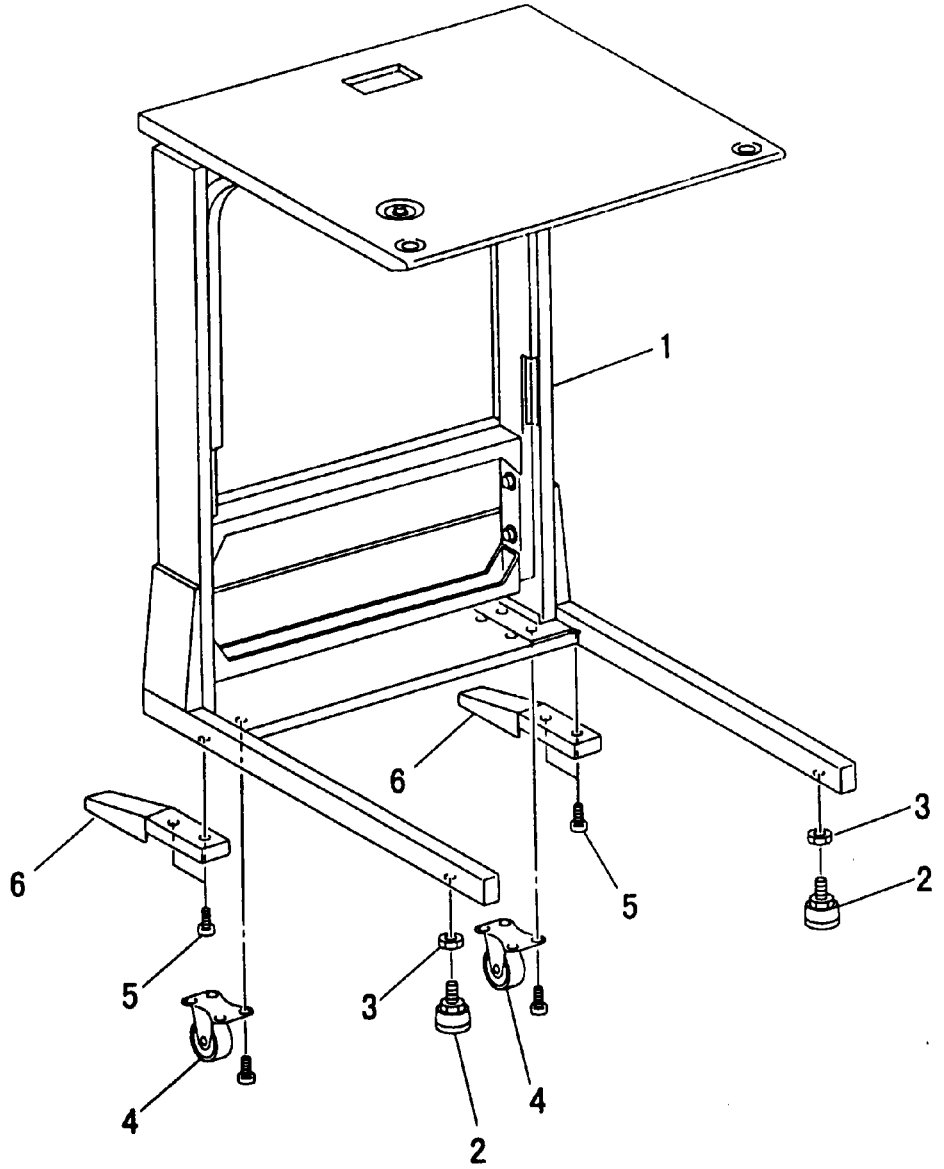
| Item | Part | Description |
|---|---|---|
| 1 | 090K92740 | Platen Glass |




0017008A-WOL

## PL 18.1 Stand

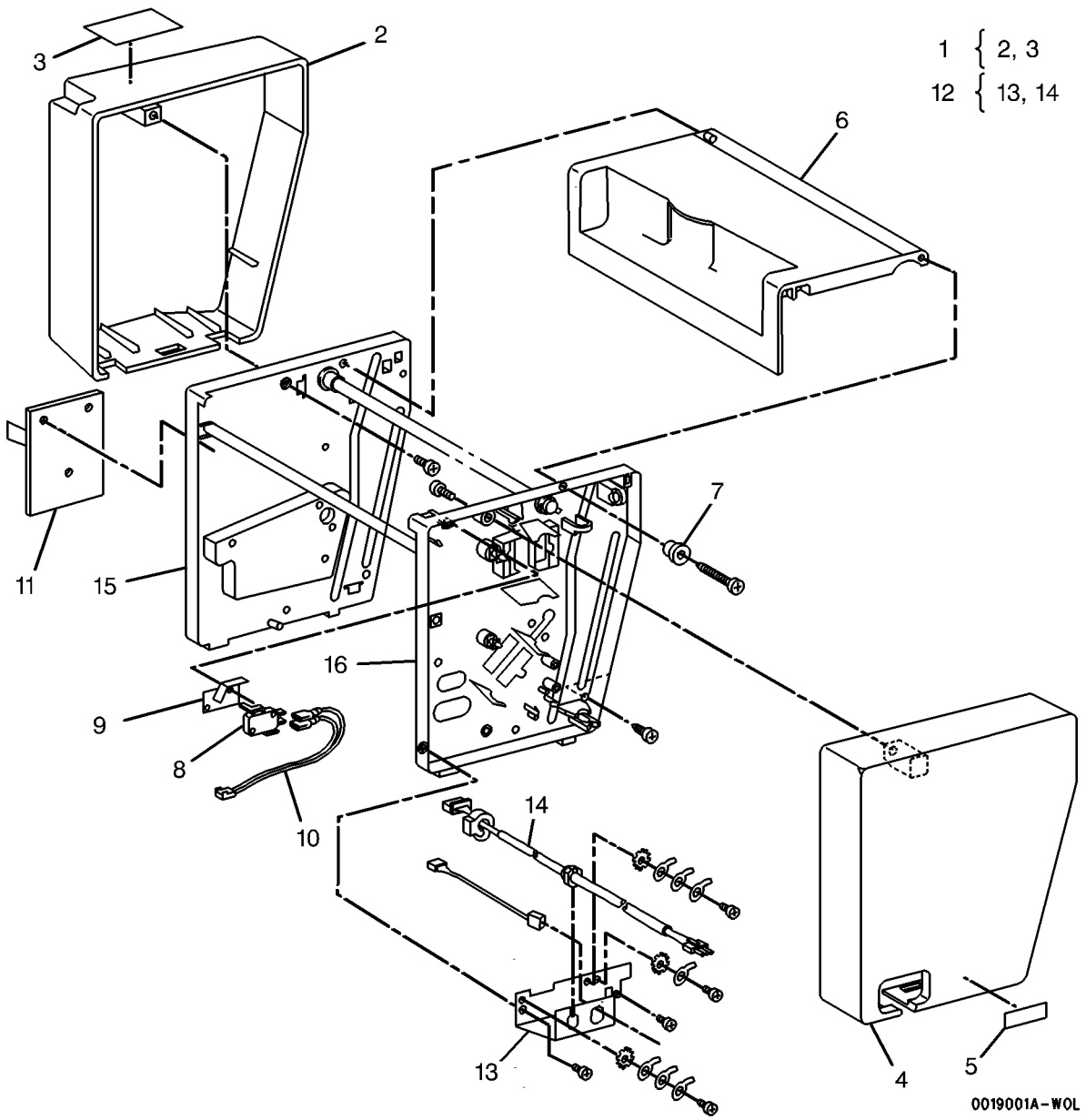
| Item | Part | Description |
|---|---|---|
| 1 | 802K17230 | Stand Assembly |
| 2 | – | Adjuster (Not Spared) |
| 3 | – | Nut (Not Spared) |
| 4 | – | Caster (Not Spared) |
| 5 | – | Screw (Not Spared) |
| 6 | – | Foot (Not Spared) |




0018001A-WOL

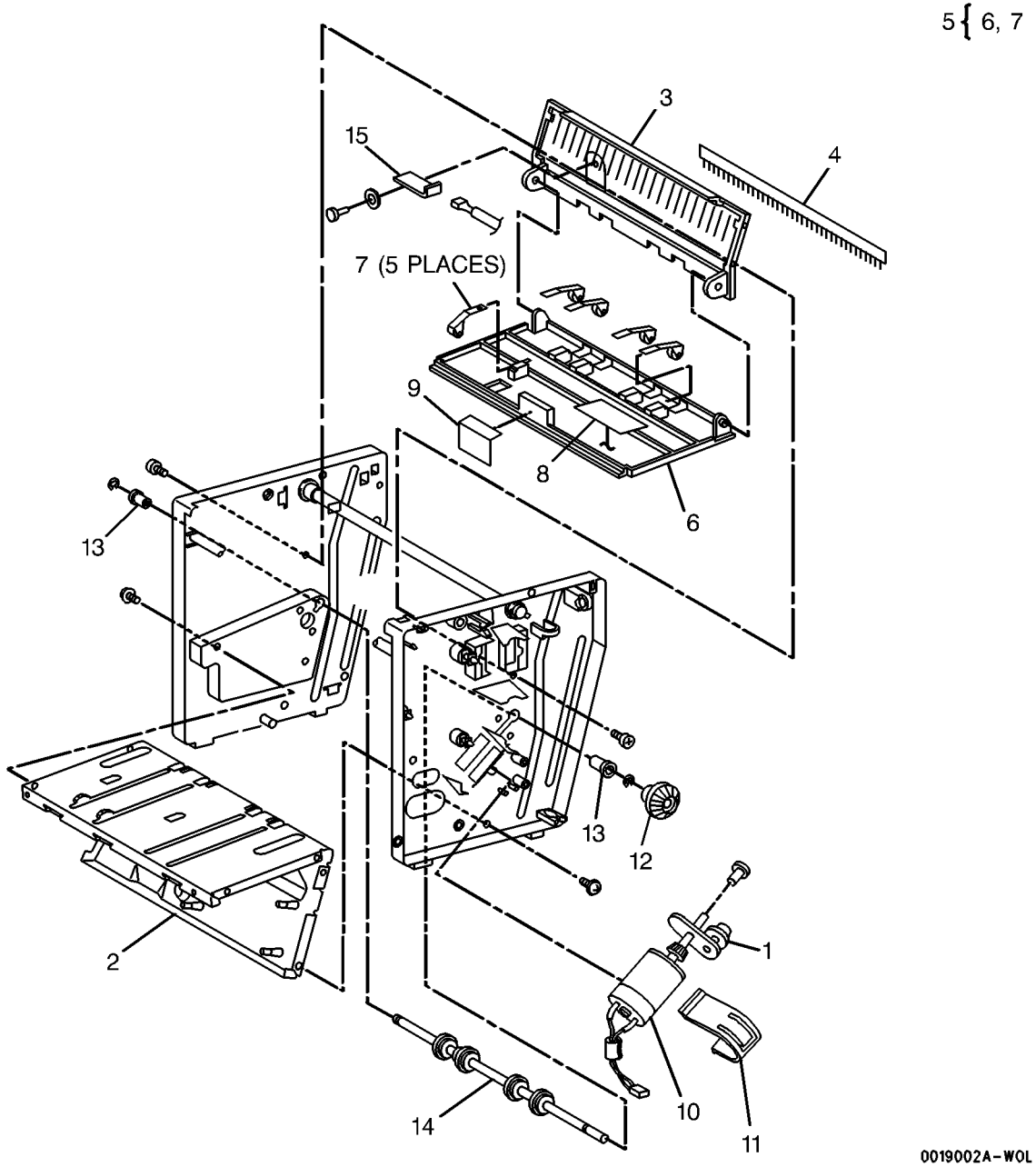
## PL 19.1 Sorter Cover, Control PWB

| Item | Part | Description |
|---|---|---|
| 1 | 802K18200 | Front Cover Assembly |
| 2 | – | Front Cover (P/O PL 19.1 Item 1) |
| 3 | – | Label (P/O PL 19.1 Item 1) |
| 4 | 802E13310 | Rear Cover |
| 5 | – | Serial Number Plate (Not Spared) |
| 6 | 802E13320 | Top Cover |
| 7 | – | Bearing (Not Spared) |
| 8 | 110K10740 | Sorter Top Cover Interlock |
| 9 | – | Plate Spring (Not Spared) |
| 10 | – | Harness (Not Spared) |
| 11 | 160K68050 | Sorter Control PWB (REP 11.3) |
| 12 | – | Harness Assembly (Not Spared) |
| 13 | – | Plate (Not Spared) |
| 14 | – | Harness (Not Spared) |
| 15 | – | Front Frame (Not Spared) |
| 16 | – | Rear Frame (Not Spared) |
| 17 | – | Sorter Assembly (Not Spared) (REP 11.1) |



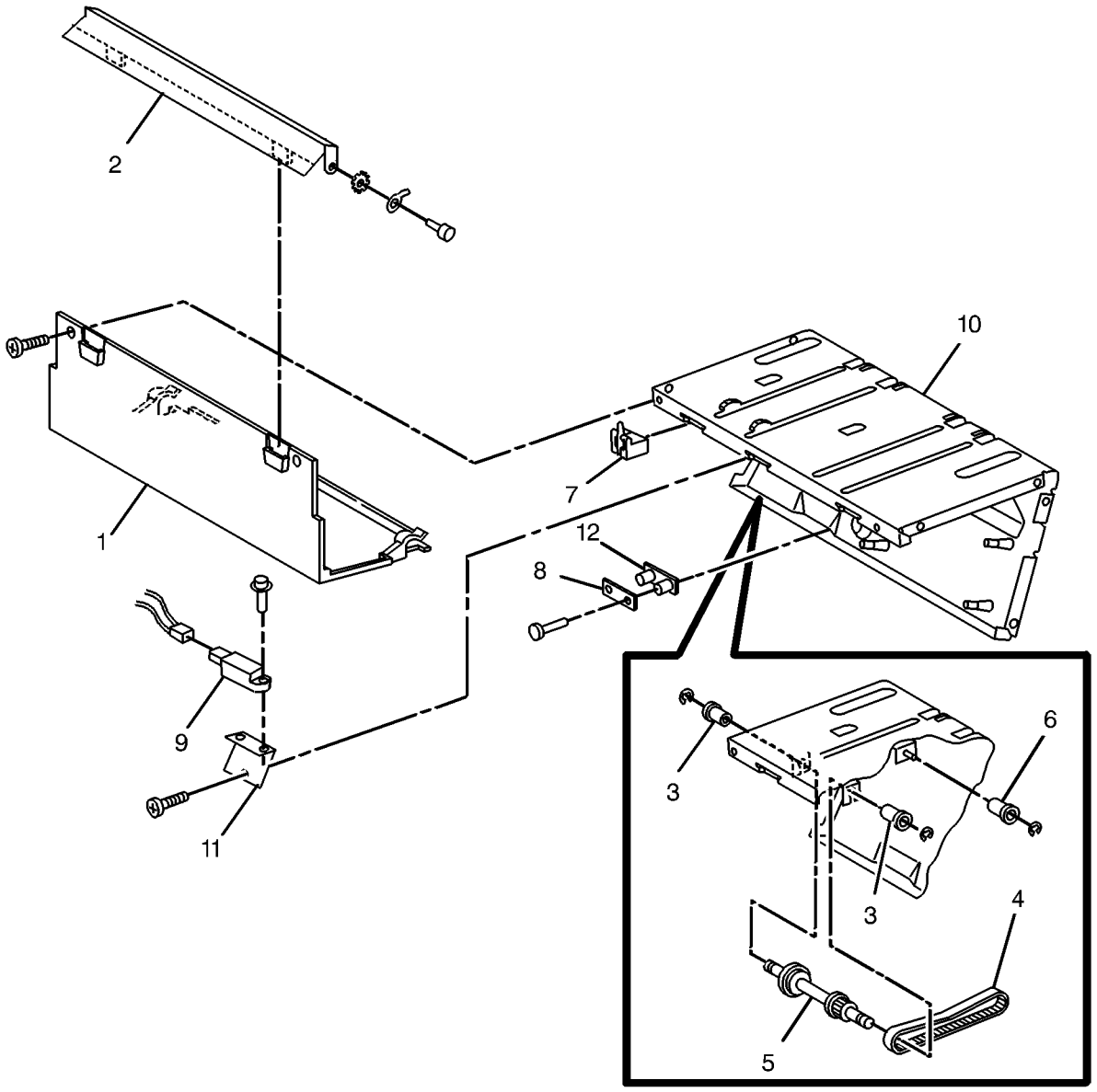
# PL 19.2 Feed Motor, LVPS (1 of 2)

| Item | Part | Description |
|---|---|---|
| 1 | 007K86440 | Gear |
| 2 | – | Lower Guide (Not Spared) |
| 3 | – | Upper Brace (Not Spared) |
| 4 | 105E05930 | Antistatic Brush |
| 5 | – | Upper Chute Assembly (Not Spared) |
| 6 | 054K17830 | Upper Chute |
| 7 | – | Pinch Roll (Not Spared) |
| 8 | – | Label (Not Spared) |
| 9 | – | Label (Not Spared) |
| 10 | 127E82330 | Sorter Transport Motor (REP 11.4) |
| 11 | 049E48940 | Support |
| 12 | 007E39240 | Gear |
| 13 | 013E85600 | Bearing |
| 14 | 022K61790 | Exit Roll |
| 15 | 130E84410 | Sensor Receiver (REP 11.5) |



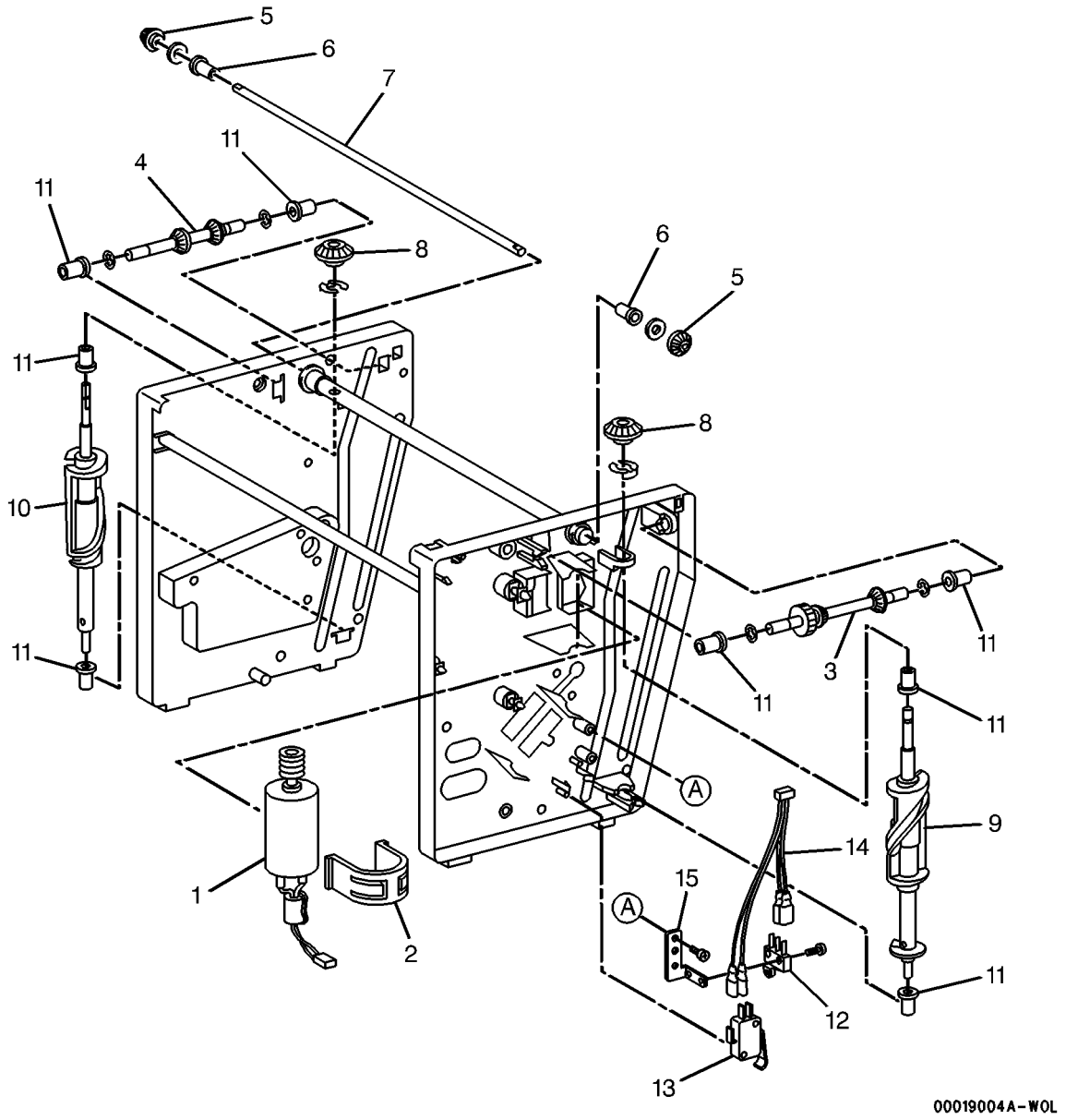
# PL 19.3 Feed Motor, LVPS (2 of 2)

| Item | Part | Description |
|---|---|---|
| 1 | 048E27040 | Bottom Cover (REP 11.2) |
| 2 | 038K85280 | Entrance Guide |
| 3 | 013E85600 | Bearing |
| 4 | 023E12590 | Belt |
| 5 | 059K04780 | Entrance Roll |
| 6 | 020E22140 | Pulley |
| 7 | 130K86470 | Sorter Path Sensor (REP 11.7) |
| 8 | 130K61390 | Sensor Transmitter (REP 11.6) |
| 9 | 130E84420 | Full Sensor (REP 11.8) |
| 10 | – | Lower Guide (Not Spared) |
| 11 | – | Bracket (Not Spared) |
| 12 | – | Bracket (Not Spared) |



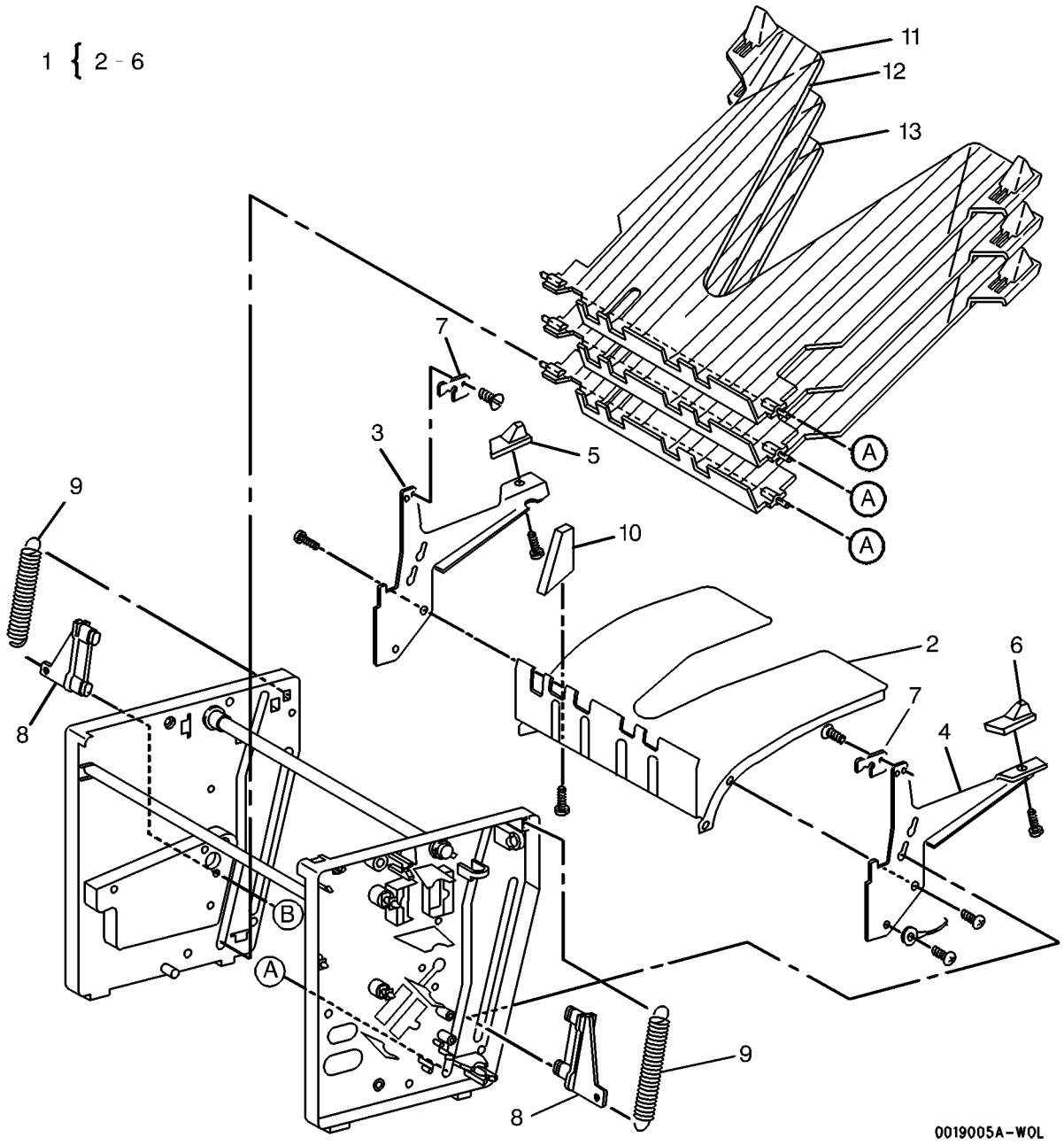
# PL 19.4 Bin Drive Motor, Lead Cam/Switch

| Item | Part | Description |
|---|---|---|
| 1 | 127E82340 | Bin Drive Motor (REP 11.9) |
| 2 | 049E48940 | Support (Not Spared) |
| 3 | 006K21260 | Rear Gear Shaft (REP 11.10) |
| 4 | 006K21270 | Front Gear Shaft (REP 11.10) |
| 5 | – | Bevel Gear (Not Spared) |
| 6 | – | Bearing (Not Spared) |
| 7 | – | Shaft (Not Spared) |
| 8 | 007E62620 | Gear |
| 9 | 008K91280 | Rear Bin Cam (REP 11.11 ADJ 11.1) |
| 10 | 008K91270 | Front Bin Cam (REP 11.11 ADJ 11.1) |
| 11 | 013E85600 | Bearing |
| 12 | 110K10730 | Bin Cam Switch (REP 11.12) |
| 13 | 110K10750 | Bin Home Switch (REP 11.13) |
| 14 | – | Harness (Not Spared) |
| 15 | – | Bracket (Not Spared) |



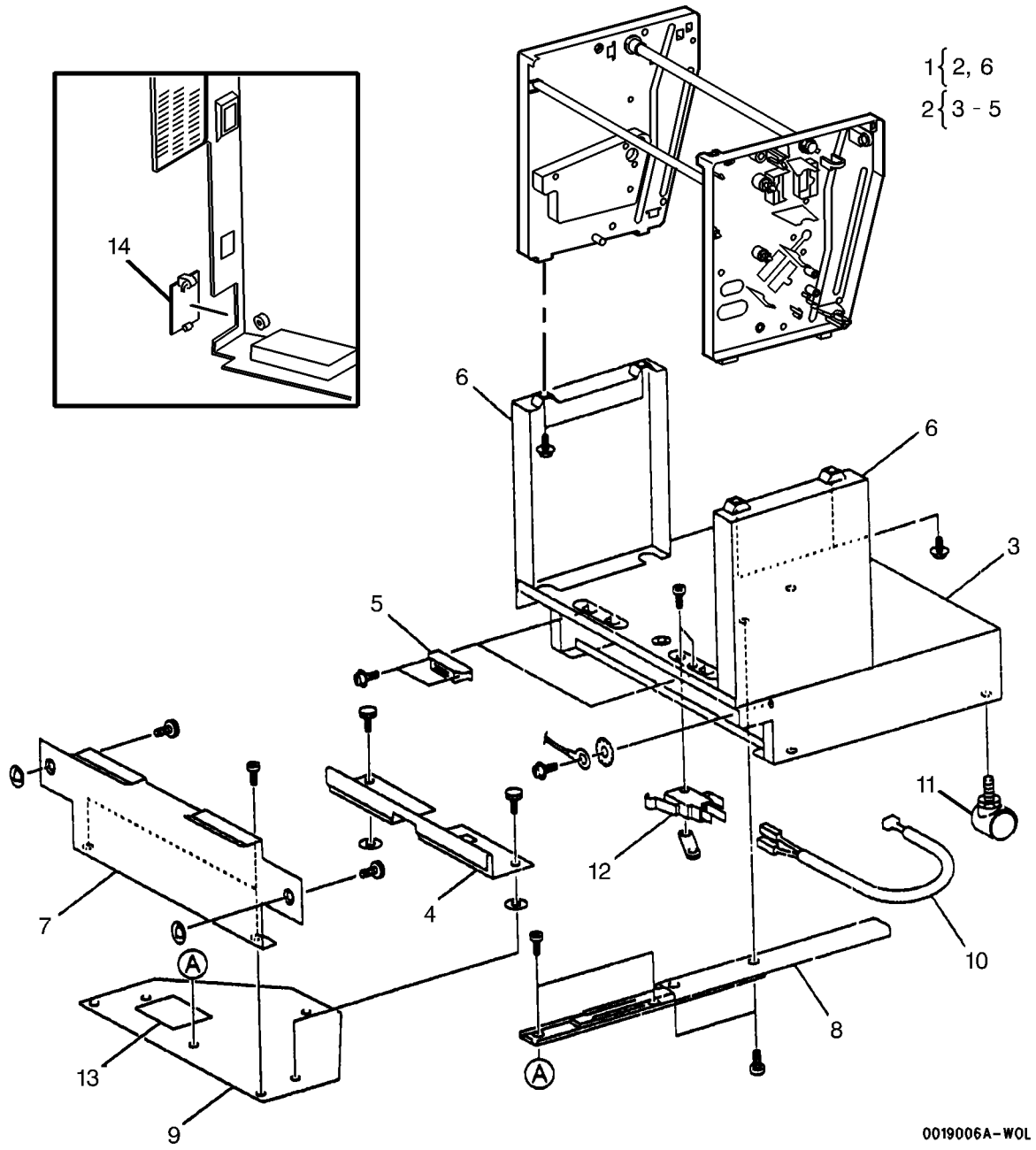
## PL 19.5 Tray Support, Bin Tray

| Item | Part | Description |
|---|---|---|
| 1 | 050K42680 | Stack Tray Assembly (ADJ 11.1) |
| 2 | – | Stack Tray (P/O PL 19.5 Item 1) |
| 3 | – | Front Frame (P/O PL 19.5 Item 1) |
| 4 | – | Rear Frame (P/O PL 19.5 Item 1) |
| 5 | – | Front Pad (P/O PL 19.5 Item 1) |
| 6 | – | Rear Pad (P/O PL 19.5 Item 1) |
| 7 | – | Frame Top (Not Spared) |
| 8 | – | Support (Not Spared) |
| 9 | 809E27480 | Spring |
| 10 | – | Aligner (Not Spared) |
| 11 | 050E16780 | Bin Tray 1-7 (REP 11.14 ADJ 11.1) |
| 12 | 050K42580 | Bin Tray 8, 9 (REP 11.14 ADJ 11.1) |
| 13 | 050K42700 | Bin Tray 10 (REP 11.14 ADJ 11.1) |



## PL 19.6 Sorter Support

| Item | Part | Description |
|---|---|---|
| 1 | – | Cart Assembly (Not Spared) |
| 2 | – | Cart Base Assembly (Not Spared) |
| 3 | – | Cart Base (Not Spared) |
| 4 | – | Rear Cart Support (Not Spared) |
| 5 | – | Lower Cart Support (Not Spared) |
| 6 | – | Cart Side (Not Spared) |
| 7 | – | Mounting Bracket (Not Spared) |
| 8 | 001E58350 | Sorter Rail |
| 9 | – | Rail Plate (Not Spared) |
| 10 | – | Harness (Not Spared) |
| 11 | 017E94420 | Caster |
| 12 | – | Docking Interlock (Not Spared) (REP 11.15) |
| 13 | – | Label (Not Spared) |
| 14 | 802E14341 | Cover |



## Common Hardware

| Item | Part | Description |
|---|---|---|
| A | 102W27651 | Screw |
| B | 102W28251 | Screw |
| C | 102W28451 | Screw |
| D | 112W27651 | Screw |
| E | 112W27659 | Screw |
| F | 112W27851 | Screw |
| G | 112W28059 | Screw |
| H | 112W28251 | Screw |
| J | 112W28451 | Screw |
| K | 112W35853 | Screw |
| L | 112L36253 | Screw |
| M | 113W15551 | Screw |
| N | 113W20457 | Screw |
| P | 113W20557 | Screw |
| R | 113W20657 | Screw |
| S | 113W20857 | Screw |
| T | 113W21057 | Screw |
| U | 113W21257 | Screw |
| V | 113W27451 | Screw |
| W | 113W27551 | Screw |
| X | 113W27651 | Screw |
| Y | 113W27851 | Screw |
| Z | 113W28056 | Screw |
| AA | 113W28451 | Screw |
| AB | 113W28651 | Screw |
| AC | 113W28851 | Screw |
| AD | 113W29751 | Screw |
| AE | 113W35557 | Screw |
| AF | 113W35657 | Screw |
| AG | 113W35851 | Screw |
| AH | 113W35857 | Screw |
| AJ | 113W36057 | Screw |
| AK | 113W36257 | Screw |
| AL | 113W36851 | Screw |
| AM | 113W38257 | Screw |
| AN | 132W45050 | Cap Screw |
| AP | 141W27451 | Set Screw |
| AR | 141W27651 | Set Screw |
| AS | 141W28051 | Set Screw |
| AT | 141W35651 | Set Screw |
| AU | 153W16055 | Tapping Screw |
| AV | 153W17655 | Tapping Screw |
| AW | 153W17855 | Tapping Screw |
| AX | 153W18055 | Tapping Screw |
| AY | 153W27650 | Tapping Screw |
| AZ | 153W27655 | Tapping Screw |
| BA | 153W27850 | Tapping Screw |
| BB | 153W28050 | Tapping Screw |
| BC | 158W27651 | Screw |
| BD | 158W27655 | Screw |
| BE | 158W27855 | Screw |
| BF | 158W28055 | Screw |
| BG | 158W28255 | Screw |
| BH | 158W28655 | Screw |
| BJ | 158W35855 | Screw |
| BK | 201W21251 | Nut |
| BL | 251W15251 | Washer |
| BM | 251W21251 | Washer |
| BN | 251W24451 | Washer |
| BP | 251W29251 | Washer |
| BR | 252W24250 | Nylon Washer |
| BS | 252W24350 | Nylon Washer |
| BT | 252W26350 | Nylon Washer |
| BU | 252W27350 | Nylon Washer |
| BV | 252W29450 | Nylon Washer |
| BW | 252W31450 | Nylon Washer |
| BX | 271W28850 | Dowel Pin |
| BY | 285W15851 | Spring Pin |
| BZ | 285W16251 | Spring Pin |
| CA | 285W16653 | Spring Pin |
| CB | 285W28251 | Spring Pin |
| CC | 285W29351 | Spring Pin |
| CD | 354W13251 | E-Clip |
| CE | 354W15251 | E-Clip |
| CF | 354W19251 | E-Clip |
| CG | 354W21251 | E-Clip |
| CH | 354W21254 | KL-Clip |
| CJ | 354W24251 | E-Clip |
| CK | 354W24254 | KL-Clip |
| CL | 354W26251 | E-Clip |
| CM | 354W27251 | E-Clip |
| CN | 354W28251 | E-Clip |
| CP | 354W29251 | E-Clip |
| CR | 354W33251 | E-Clip |
| CS | 356W29251 | C-Clip |
| CT | 351W29250 | C-Clip |
| CU | 351W41250 | C-Clip |
| CV | 251W26250 | Nylon Washer |
| CW | 252W31550 | Nylon Washer |
| CX | 112W36053 | Screw |
| CY | 271W21250 | Dowel Pin |
| CZ | 158W35655 | Screw |
| DA | 158W27663 | Screw |
| DB | 158W36855 | Screw |
| DC | 158W36663 | Screw |
| DD | 102W35851 | Screw |
| KL | – | Screw |

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| 001K73551 | PL 4.1 |
| | PL 4.6 |
| 002E61020 | PL 17.5 |
| 003E39791 | PL 8.4 |
| 003E52460 | PL 16.6 |
| 003E53300 | PL 8.2 |
| 003K84303 | PL 6.1 |
| 003K91881 | PL 17.1 |
| 004E06560 | PL 16.5 |
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| 007E60321 | PL 8.3 |
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| 007E83141 | PL 17.6 |
| 007E83250 | PL 17.3 |
| 007K85070 | PL 10.1 |
| 007K85080 | PL 10.1 |
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| 007K86440 | PL 19.2 |
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| 008K91280 | PL 19.4 |
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| 009E28580 | PL 17.3 |
| 009E31711 | PL 17.4 |
| 009E39080 | PL 17.3 |
| 009E48250 | PL 17.2 |
| 009E62830 | PL 16.4 |
| 009E64490 | PL 17.4 |
| 009E71750 | PL 3.3 |
| 011E09640 | PL 7.1 |
| 011E10200 | PL 8.4 |
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| 013E80970 | PL 17.3 |
| | PL 17.6 |
| 013E81370 | PL 17.3 |
| 013E81880 | PL 17.2 |
| 013E81940 | PL 17.2 |
| 013E82290 | PL 17.3 |
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| 019K97140 | PL 14.2 |
| | PL 14.3 |

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| 020E90660 | PL 17.2 |
| 020E93230 | PL 17.7 |
| 020K93300 | PL 17.2 |
| 020K93310 | PL 17.3 |
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| 020K94970 | PL 16.4 |
| 021E97232 | PL 15.1 |
| 022K30330 | PL 17.7 |
| 022K30360 | PL 17.7 |
| 022K39700 | PL 17.6 |
| 022K39710 | PL 17.6 |
| 022K57450 | PL 15.2 |
| 022K57460 | PL 15.3 |
| 022K57470 | PL 15.3 |
| 022K57481 | PL 15.4 |
| 022K57500 | PL 15.7 |
| 022K57510 | PL 15.5 |
| 022K57520 | PL 15.6 |
| 022K61790 | PL 19.2 |
| 023E08500 | PL 17.2 |
| 023E08510 | PL 17.2 |
| 023E08520 | PL 17.2 |
| 023E12590 | PL 19.3 |
| 023E15690 | PL 17.6 |
| 023E15810 | PL 17.7 |
| 023E19270 | PL 15.4 |
| 023E19280 | PL 15.4 |
| 023E19320 | PL 16.4 |
| 026E17760 | PL 17.7 |
| 026P63574 | PL 17.1 |
| 026E74100 | PL 15.1 |
| 026K80571 | PL 5.1 |
| 026E82620 | PL 17.4 |
| | PL 17.5 |
| | PL 17.7 |
| 029E30560 | PL 8.6 |
| 036K90890 | PL 17.2 |
| 036K90900 | PL 17.2 |

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| Part Number | Part List |
|---|---|
| 038K85073 | PL 8.2 |
| 038K85081 | PL 8.2 |
| 038K85280 | PL 19.3 |
| 038K85490 | PL 14.2 |
| | PL 14.3 |
| | PL 2.1 |
| 038E88420 | PL 14.2 |
| | PL 14.3 |
| 041K94070 | PL 16.5 |
| 041K94100 | PL 16.5 |
| 042K92110 | PL 7.1 |
| 048E18040 | PL 16.6 |
| 048E27040 | PL 19.3 |
| 048E52291 | PL 1.1 |
| 049E48940 | PL 19.2 |
| | PL 19.4 |
| 050E16780 | PL 19.5 |
| 050K27592 | PL 9.1 |
| 050K41980 | PL 17.1 |
| 050K42110 | PL 17.1 |
| 050K42172 | PL 14.3 |
| 050K42460 | PL 14.1 |
| | PL 14.2 |
| 050K42472 | PL 2.1 |
| 050K42570 | PL 4.1 |
| 050K42580 | PL 19.5 |
| 050K42600 | PL 13.1 |
| | PL 13.8 |
| 050K42680 | PL 19.5 |
| 050K42700 | PL 19.5 |
| 050K43330 | PL 8.1 |
| | PL 8.4 |
| 050K43340 | PL 8.1 |
| | PL 8.4 |
| 053K91391 | PL 1.2 |
| 054E10561 | PL 8.4 |
| 054E15200 | PL 4.7 |
| 054E15670 | PL 4.7 |
| 054K17770 | PL 9.1 |
| 054K17830 | PL 19.2 |
| 054K18060 | PL 15.6 |

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| Part Number | Part List |
|---|---|
| 054E84730 | PL 17.4 |
| 054K87731 | PL 17.7 |
| 059K04780 | PL 19.3 |
| 059K04840 | PL 3.3 |
| 059K08840 | PL 13.7 |
| 059K13330 | PL 17.7 |
| 059K13440 | PL 17.6 |
| 059K14300 | PL 13.5 |
| 059K14380 | PL 4.7 |
| 059K14390 | PL 3.3 |
| 059K14400 | PL 4.7 |
| 059K14430 | PL 8.4 |
| 059K15010 | PL 8.3 |
| 059K15021 | PL 8.2 |
| 059K15030 | PL 8.3 |
| 059K15182 | PL 13.3 |
| | PL 13.5 |
| 059K16181 | PL 17.1 |
| 059K17250 | PL 13.5 |
| 059K17851 | PL 17.1 |
| 059K18960 | PL 15.1 |
| | PL 15.2 |
| 059K19050 | PL 15.1 |
| | PL 15.3 |
| 059K19120 | PL 15.1 |
| | PL 15.5 |
| 059E90580 | PL 17.3 |
| 059K91200 | PL 17.7 |
| 062K09721 | PL 5.1 |
| 064K91350 | PL 7.2 |
| | PL 7.3 |
| 068E10210 | PL 16.1 |
| 068K78200 | PL 17.2 |
| 090K92740 | PL 16.1 |
| | PL 17.8 |
| 105E05930 | PL 19.2 |
| 105E10010 | PL 16.5 |
| 105K15680 | PL 11.1 |
| 105K15690 | PL 11.1 |
| 105K18600 | PL 11.1 |
| 105K18750 | PL 16.1 |

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| Part Number | Part List |
|---|---|
| 105K18760 | PL 16.1 |
| 105E92310 | PL 17.5 |
| 105E94661 | PL 17.7 |
| 107E06650 | PL 17.3 |
| 108E93270 | PL 17.2 |
| 110K07040 | PL 13.3 |
| 110K07770 | PL 3.1 |
| 110K07831 | PL 11.1 |
| 110K10730 | PL 19.4 |
| 110K10740 | PL 19.1 |
| 110K10750 | PL 19.4 |
| 110E93440 | PL 13.2 |
| | PL 9.2 |
| | PL 4.1 |
| | PL 3.3 |
| | PL 15.6 |
| 110E94380 | PL 11.2 |
| 110K94420 | PL 17.7 |
| 110K94790 | PL 17.4 |
| 110K94900 | PL 16.1 |
| 110E97970 | PL 3.1 |
| 110K98810 | PL 11.2 |
| 113K81450 | PL 5.1 |
| 117E19831 | PL 16.5 |
| 117K31200 | PL 16.6 |
| 117K31400 | PL 11.1 |
| 120E12930 | PL 14.3 |
| 120E17680 | PL 4.3 |
| 121K21141 | PL 10.1 |
| 121K21560 | PL 13.6 |
| 121K21570 | PL 15.1 |
| 121K21821 | PL 8.5 |
| 121K22250 | PL 15.2 |
| 121K22260 | PL 15.4 |
| 121K22730 | PL 7.4 |
| 121K23181 | PL 12.1 |
| 121K23260 | PL 10.1 |
| 121K23430 | PL 4.6 |
| | PL 4.7 |
| 121K23790 | PL 13.6 |
| | PL 15.6 |

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| Part Number | Part List |
|---|---|
| | PL 15.7 |
| | PL 3.3 |
| 121E84500 | PL 3.1 |
| 121E87040 | PL 8.7 |
| 121E90450 | PL 17.4 |
| 121E90640 | PL 17.1 |
| 122E91950 | PL 16.5 |
| 122K93100 | PL 5.1 |
| 126K11290 | PL 8.3 |
| 126K11300 | PL 8.3 |
| 126K11330 | PL 8.3 |
| 126K11340 | PL 8.3 |
| 127K25400 | PL 10.1 |
| 127K25410 | PL 10.1 |
| 127K25420 | PL 17.7 |
| 127K27450 | PL 10.1 |
| 127K28260 | PL 13.4 |
| 127K28300 | PL 10.1 |
| 127K29160 | PL 15.5 |
| 127K29440 | PL 16.1 |
| 127K29610 | PL 16.4 |
| 127K29890 | PL 17.2 |
| 127K31700 | PL 10.1 |
| 127E81620 | PL 8.6 |
| 127E81670 | PL 12.1 |
| 127E81940 | PL 9.2 |
| 127E81951 | PL 9.2 |
| 127E82330 | PL 19.2 |
| 127E82340 | PL 19.4 |
| 130K58120 | PL 16.1 |
| 130K60440 | PL 5.1 |
| 130K60530 | PL 11.2 |
| 130K60721 | PL 8.2 |
| 130K61001 | PL 16.1 |
| 130K61010 | PL 16.1 |
| 130K61311 | PL 9.2 |
| 130K61380 | PL 17.5 |
| 130K61390 | PL 19.3 |
| 130E81150 | PL 17.5 |
| 130E81600 | PL 13.5 |
| 130E81970 | PL 13.4 |

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| Part Number | Part List |
|---|---|
| | PL 3.1 |
| | PL 4.3 |
| | PL 8.2 |
| | PL 8.6 |
| 130E82190 | PL 4.2 |
| | PL 4.4 |
| 130E82650 | PL 13.5 |
| | PL 4.6 |
| | PL 4.3 |
| | PL 15.3 |
| 130E82730 | PL 15.5 |
| | PL 9.2 |
| 130K82780 | PL 17.5 |
| 130K82790 | PL 17.3 |
| 130E82830 | PL 6.1 |
| 130E82980 | PL 5.1 |
| 130K83020 | PL 17.7 |
| 130E83060 | PL 6.1 |
| 130E84270 | PL 7.3 |
| 130E84410 | PL 19.2 |
| 130E84420 | PL 19.3 |
| 130K86470 | PL 19.3 |
| 130E91010 | PL 5.1 |
| 140K60480 | PL 17.1 |
| 144E00420 | PL 12.1 |
| 144E00430 | PL 12.1 |
| 144E00440 | PL 12.1 |
| 152K63490 | PL 17.1 |
| 160K11571 | PL 17.2 |
| 160K56510 | PL 10.1 |
| 160K61490 | PL 10.1 |
| 160K61500 | PL 11.2 |
| 160K62210 | PL 16.2 |
| 160K67350 | PL 16.3 |
| 160K67840 | PL 16.2 |
| 160K68050 | PL 19.1 |
| 160K69571 | PL 16.2 |
| 160K69650 | PL 12.1 |
| 160K69840 | PL 16.1 |
| 160K70540 | PL 15.6 |
| 160K74520 | PL 13.4 |

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| Part Number | Part List |
|---|---|
| 160K74641 | PL 12.1 |
| 160K75040 | PL 11.2 |
| 160K81230 | PL 5.1 |
| 162K42090 | PL 12.1 |
| 162K53100 | PL 11.1 |
| 162K53120 | PL 11.2 |
| 162K53130 | PL 11.1 |
| 162K53250 | PL 8.5 |
| 162K53280 | PL 4.6 |
| 162K53330 | PL 4.2 |
| 162K54090 | PL 13.4 |
| 162K54120 | PL 13.4 |
| 162K54131 | PL 13.2 |
| 162K54140 | PL 13.4 |
| 162K54150 | PL 13.4 |
| 162K55450 | PL 15.3 |
| 162K55490 | PL 11.1 |
| 162K56420 | PL 16.1 |
| 162K56430 | PL 16.1 |
| 162K56731 | PL 16.6 |
| 162K60280 | PL 16.6 |
| 162K60410 | PL 17.2 |
| 162K60970 | PL 16.1 |
| 162K61050 | PL 11.2 |
| 413W10350 | PL 16.4 |
| 600K68610 | PL 4.7 |
| 600K68620 | PL 5.1 |
| 600K68750 | PL 9.2 |
| 600K69091 | PL 6.1 |
| 600K73770 | PL 3.3 |
| 600K84250 | PL 17.4 |
| 600K85301 | PL 6.1 |
| 600K85411 | PL 8.1 |
| | PL 8.2 |
| 600K85421 | PL 8.1 |
| | PL 8.2 |
| 600K85430 | PL 8.2 |
| 600K85480 | PL 8.3 |
| 600K85500 | PL 1.1 |
| 600K85510 | PL 1.1 |
| 600K85730 | PL 16.4 |

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| Part Number | Part List |
|---|---|
| 600K99500 | PL 17.3 |
| 600K99510 | PL 17.3 |
| 802E05130 | PL 13.2 |
| 802E05191 | PL 13.2 |
| 802E05291 | PL 1.2 |
| 802E05311 | PL 1.2 |
| 802E05331 | PL 1.2 |
| 802E05350 | PL 1.1 |
| 802E05370 | PL 1.2 |
| 802E05560 | PL 3.2 |
| 802K11970 | PL 1.1 |
| 802K12002 | PL 6.2 |
| 802K12052 | PL 6.2 |
| 802K12082 | PL 6.2 |
| 802K12112 | PL 6.2 |
| 802E12181 | PL 15.6 |
| 802E12211 | PL 15.7 |
| 802K12301 | PL 7.1 |
| 802K12480 | PL 1.1 |
| 802E13310 | PL 19.1 |
| 802E13320 | PL 19.1 |
| 802K13810 | PL 16.6 |
| 802K13821 | PL 16.6 |
| 802K13831 | PL 16.6 |
| 802E14341 | PL 19.6 |
| 802K14462 | PL 7.1 |
| | PL 7.5 |
| 802K14670 | PL 17.1 |
| 802K14680 | PL 17.4 |
| 802K14870 | PL 16.6 |
| 802E15530 | PL 13.2 |
| 802E15720 | PL 13.2 |
| 802K15851 | PL 6.2 |
| 802K15861 | PL 6.2 |
| 802K15871 | PL 6.2 |
| 802K15881 | PL 6.2 |
| 802K16900 | PL 16.6 |
| 802K16910 | PL 16.6 |
| 802K16990 | PL 1.2 |
| 802K17122 | PL 1.2 |
| 802K17141 | PL 1.1 |

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| Part Number | Part List |
|---|---|
| 802K17151 | PL 1.1 |
| 802K17230 | PL 18.1 |
| 802K17430 | PL 7.1 |
| | PL 7.2 |
| 802K18200 | PL 19.1 |
| 802K18401 | PL 1.1 |
| 802K25820 | PL 15.2 |
| 802K25830 | PL 1.2 |
| 802K25970 | PL 15.3 |
| 809E27480 | PL 19.5 |
| 830E19490 | PL 13.2 |
| | PL 3.2 |
| 830E56720 | PL 15.5 |
| 892E19610 | PL 17.1 |
| 892E19620 | PL 17.1 |
| 892E19630 | PL 17.1 |

# 6 General Procedures and Information

## General Procedures


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# GP 1 Diagnostic Mode (IOT)

## Entering the Diagnostic Mode

1. Switch off the power.
2. Press and hold the Up arrow and the Down arrow on the IOT Control Panel
3. While pressing the two buttons, switch on the power. Do not release the buttons.
4. Release the buttons when the display flashes the following:
   ##################
   ##################

The machine will execute a series of initialization and self-test routines. When the machine is ready to accept diagnostic commands, the following will be displayed:

**INPUT PASSWORD**

## Navigation

Figure 1 below shows and describes the Control Panel.

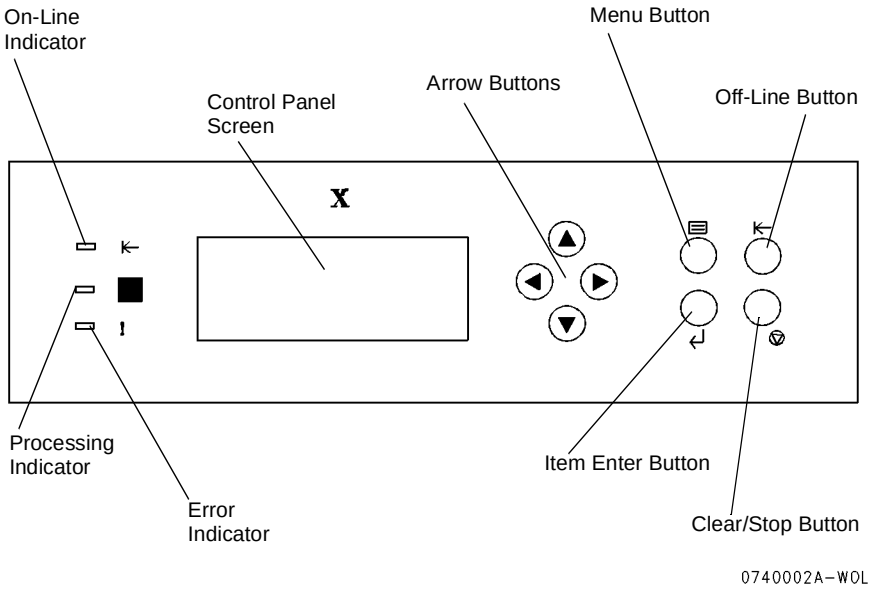


**Figure 1 The Control Panel**

Use the Up and Down arrow buttons to enter data onto the display. Use the Right and Left arrow buttons to move the cursor right or left.

For example, to enter the password (default password is **9999**):

1. The cursor should be under the far left position. Use the Up or Down arrow to scroll until the numeral **9** is displayed.
2. Use the Right arrow to move the cursor one place to the right.
3. Repeat step 1 and step 2 until **9999** is displayed.
4. Press the **Item Enter** button to input the password.

## Menu Options

When the correct password has been entered, the first menu item is displayed. Press the **Menu** button to scroll through the menu choices. Table 1 lists the available menu items

**Table 1 Menu Items**

| Menu Item | Explanation |
|---|---|
| DI TEST | see GP 2 |
| DO TEST | see GP 2 |
| STOP DO TEST | see GP 2 |
| IOT PARAM SET | see GP 3 |
| IOT NVM R/W | see GP 4 |
| PATTERN PRINTING | see GP 15 |
| INSTALL MCU F/W | see GP 8 |
| INSTALL 1394 F/W | see GP 8 |
| METER | see GP 5 |
| METER SETUP | see GP 5 |
| INITIALIZING DATA | see GP 6 |
| CHANGE PASSWORD | see GP 7 |
| RESET ADMIN PASSWORD | see GP 7 |
| DIAG EXIT | see GP 1 (Exit) |

## Exiting the Diagnostic Mode

To exit from IOT diagnostics, perform the following:

1. Scroll through the menu until **DIAG EXIT** is displayed.
2. Press the **Item/Enter** button. The following message will appear:
   **WRITING DATA**
   **PLEASE WAIT**
3. The machine will update any changes that were made in diagnostics. When the update is complete, the following message will appear:
   **PLEASE POWER OFF**
4. Switch off the power.

# GP 2 Component Control (IOT)

The purpose is to display the logic state of input signals and to energize output components.

## Procedure

1. Enter the Diagnostic Mode (GP 1).
2. Press the **Menu** button to scroll through the menu choices. The three choices to use for component control are:

   **DI TEST** - use this selection for diagnostic checks of digital input components.

   **DO TEST** - use this selection for switching on the output components.

   **STOP DO TEST** - use this selection for switching off the output components.
3. Press the **Item Enter** button to select the appropriate test mode.
4. Use the Up Arrow and Down Arrow buttons to navigate within the test mode.

   ***NOTE:*** *The component control function for Input Codes is not dynamically displayed. You must first enter the code and validate the state. Next, actuate or deactuate the input component, and then re-enter the code to check for a change of state.*

   ***NOTE:*** *Upon selecting a code, a time-out will occur after 30 seconds if no activity is sensed, and the display will return to the root message.*
5. The following table lists the digital input codes.

**Table 1 Digital Input Codes**

| DI Code | Component | Signal | BSD Ref |
|---|---|---|---|
| 06 | Feed Ready | Not used | -- |
| 15 | Full Stack Sensor | Top Tray Full (L) +5 VDC | 10.4 |
| 16 | Top Exit Sensor | Sheet at Top Exit Sensor (L) +5 VDC | 10.4 |
| 24 | Fuser Entrance Sensor | Sheet at Fuser Entrance (L) +5 VDC | 10.1 |
| 25 | Front Fuser Exit Sensor | Sheet at Front Fuser Exit Sensor (L) +5 VDC | 10.4 |
| 26 | Sensor OHP MSI | Not used | -- |
| 27 | OHP Sensor (Front) | OHP Sensed (L) +5 VDC | 8.6 |
| 28 | OHP Sensor Rear | Not used | -- |
| 29 | Registration Sensor | Registration Sensed (L) +5 VDC | 8.6 |
| 2A | Bottom Plate Sensor | Lift Plate Sensed (L) +5 VDC | 7.2 |
| 2B | Stack Height Sensor | Stack Height Sensed (L) +5 VDC | 7.2 |
| 2C | Level Sensor | Lift Plate Sensed (L) +5 VDC | 7.2 |
| 35 | ESS PWB | Not used | -- |
| 3B | ESS PWB | Not used | -- |
| 42 | TR0 Sensor | TR0 Sensor On (L) +5 VDC | 9.6 |
| 43 | Rotary Sensor | Home Sensed (H) +5 VDC | 9.3 |
| 4B | Rear Fuser Exit Sensor | Sheet at Rear Fuser Exit Sensor (L) +5 VDC | 10.4 |
| 50 | ROS Assembly | Not used | -- |
| 51 | Waste Toner Sensor | Waste Toner Full (H) +5 VDC | 9.9 |
| 52 | Toner Box Sensor | Toner Box Set (L) +5 VDC | 9.9 |

**Table 1 Digital Input Codes**

| DI Code | Component | Signal | BSD Ref |
|---|---|---|---|
| 53 | MCU Check | Not used | -- |
| 54 | MCU PWB (Dipswitch S1) | Not used | -- |
| 60 | Tray No Paper Sensor Tray 1 | Tray No Paper Sensed (H) +5 VDC | 7.1 |
| 61 | Low Paper Switch | Low Paper Sensed (L) +5 VDC | 7.1 |
| 62 | Fuser Assembly | Fuser Installed (L) +5 VDC | 1.2 |
| 66 | Empty Sensor (Bypass Tray) | Tray Empty Sensed (H) +5 VDC | 7.2 |
| 67 | Cartridge Sensor | Cartridge Sensed (L) +5 VDC | 9.3 |
| 70 | Fuser Motor | Fuser Motor Fail (H) +5 VDC | 4.1 |
| 71 | Paper Handling Motor | Paper Handling Motor Fail (H) +5 VDC | 4.1 |
| 72 | Process Drive Unit | Process Motor Fail (H) +5 VDC | 9.2 |
| 73 | Right Front Cover Interlock | Right Front Cover Closed (L) +5 VDC | 1.2 |
| 74 | Exit Chute Interlock | Exit Chute Closed (L) +5 VDC | 1.3 |
| 75 | Bypass Tray Guide Switch | Bypass Guide Up (L) +5 VDC | 7.2 |
| 76 | BTR 2 Cam Sensor | BTR 2 Cam Home (L) +5 VDC | 9.8 |
| 77 | Bypass Tray Interlock | Bypass Tray Inserted (L) +5 VDC | 1.3 |
| 80 | Optional Sorter | Not used | -- |
| 82 | +24 VDC to MCU PWB | Not used | -- |
| 83 | Duplex Option | Ready | 3.5 |
| 84 | Turn Chute Interlock | Turn Chute Closed (L) +5 VDC | 1.3 |
| 85 | Fuser Fan | Fuser Fan Fail (H) +5 VDC | 10.3 |
| 86 | Exit Chute Fan | Exit Chute Fan Fail (H) +5 VDC | 10.3 |
| 87 | Developer Fan | Fan Alarm | 9.4 |
| 90 | Inverter Sensor | Sheet at Inverter Sensor (L) +5 VDC | 10.5 |
| 91 | Duplex Entrance Sensor | Duplex Entrance Sensor (L) +5 VDC | 10.5 |
| 92 | Duplex Exit Sensor | Duplex Exit Sensor (L) +5 VDC | 10.5 |
| 93 | Cab Interlock | Cab Interlock Closed (L) +5 VDC | 1.5 |
| 94 | Duplex Tray | Duplex Tray Set (L) +5 VDC | 10.7 |
| 95 | +24 VDC to Optional Duplex | Not used | -- |
| 96 | Inverter Motor | Inverter Motor Fail (H) +5 VDC | 10.8 |
| A0 | Low Paper Sensor Tray 2 | Low Paper Sensed (H) +5 VDC | |
| A4 | No Paper Sensor Tray2 | No Paper Sensed (H) +5 VDC | 7.3 |
| A5 | Nudger Sensor Tray 2 | Nudger Sensed (L) +5 VDC | 7.3 |
| A6 | Feed Out Sensor Tray 2 | Paper Feed Out Sensed (L) +5 VDC | 8.3 |
| B0 | Low Paper Sensor Tray 3 | Low Paper Sensed (H) +5 VDC | 7.4 |
| B4 | No Paper Sensor Tray 3 | No Paper Sensed (H) +5 VDC | 7.4 |
| B5 | Nudger Sensor Tray 3 | Nudger Sensed (L) +5 VDC | 7.4 |

**Table 1 Digital Input Codes**

| DI Code | Component | Signal | BSD Ref |
|---|---|---|---|
| B6 | Feed Out Sensor Tray 3 | Paper Feed Out Sensed (L) +5 VDC | 8.4 |
| C0 | Feeder Right Cover Interlock 1 | Feeder Right Cover Interlock 1 Closed (L) +5 VDC | 1.4 |
| C1 | Feeder Right Cover Interlock 2 | Feeder Right Cover Interlock 2 Closed (L) +5 VDC | 1.4 |
| C2 | +24 VDC to Optional Feeder | Not used | -- |
| C3 | Feeder Motor | Feeder Motor Fail (H) +5 VDC | 8.5 |
| D0 | Sorter Full Sensor | Paper Sensed (L) +5 VDC | 11.3 |
| D1 | Sorter Path Sensor | Paper Sensed (L) +5 VDC | 11.3 |
| D2 | Sorter Top Cover Interlock | Sorter Top Cover Interlock Closed (H) +24 VDC | 11.1 |
| D3 | Bin Home Switch | Bin Home Switch Closed (L) +5 VDC | 11.4 |
| D4 | Bin Cam Switch | Bin Cam Switch Closed (L) +5 VDC | 11.4 |
| D5 | Docking Interlock | Docking Interlock Closed (L) +5 VDC | 11.1 |
| D6 | Receiver Sensor | Paper In Bin Sensed (H) +5 VDC | 11.3 |

***NOTE:*** *In the digital output test mode, each component is actuated using the* ***DO TEST*** *menu and deactuated using the* ***STOP DO TEST*** *menu. Therefore, to deactuate an actuated component, you must first go back to the* ***STOP DO TEST*** *menu and select the component again.*

6. The following table lists the digital output codes.

**Table 2 Digital Output Codes**

| DO Code | Component | Signal | BSD Ref |
|---|---|---|---|
| 00 | Process Drive Unit | Process Motor Speed 0 | 9.2 |
| 06 | Process Drive Unit | Process Motor Speed 1 | 9.2 |
| 07 | Optional Feeder | Flag | 3.4 |
| 08 | Optional Feeder | Start | 3.4 |
| 09 | Duplex Option | Start | 3.5 |
| 0A | HVPS | BTR 2 Bias On (L) +24 VDC | 9.7 |
| 0B | HVPS | BTR 1 Bias On (L) +24 VDC | 9.6 |
| 0C | HVPS | Developer DC Bias On (L) +24 VDC | 9.4 |
| 0D | HVPS | Developer AC Bias On (L) +24 VDC | 9.4 |
| 0E | HVPS | BCR DC On (L) +24 VDC | 9.1 |
| 10 | Rotary Motor | Rotary Motor Low Speed On (L) +5 VDC | 9.3 |
| 11 | Rotary Motor | Rotary Motor On (L) +5 VDC | 9.3 |
| 17 | Exchange Solenoid | Exchange Solenoid Push (L) +24 VDC | 10.4 |
| 18 | Exchange Solenoid | Exchange Solenoid Pull (L) +24 VDC | 10.4 |
| 19 | Inverter Solenoid | Inverter Solenoid Push (L) +24 VDC | 10.5 |
| 1A | Inverter Solenoid | Inverter Solenoid Pull (L) +24 VDC | 10.5 |

**Table 2 Digital Output Codes**

| DO Code | Component | Signal | BSD Ref |
|---|---|---|---|
| 1B | Feed Solenoid | Feed Solenoid On (L) +24 VDC | 8.1 |
| 1C | Turn Clutch | Turn Clutch On (L) +24 VDC | 8.1 |
| 1E | Registration Clutch | Registration Clutch On (L) +24 VDC | 8.7 |
| 1F | Preregistration Clutch | Preregistration Clutch On (L) +24 VDC | 8.7 |
| 20 | Bypass Tray Feed Clutch | Feed Clutch On (L) +24 VDC | 8.2 |
| 21 | Developer Clutch | Developer Clutch On (L) +24 VDC | 9.4 |
| 22 | MCU PWB | Not used | -- |
| 23 | Lift Motor | Bypass Signal | 7.2 |
| 2D | Lift Motor | Bypass Signal 0 | 7.2 |
| 2E | Lift Motor | Bypass Signal 1 | 7.2 |
| 3A | MCU PWB | Not used | -- |
| 3C | MCU PWB | Not used | -- |
| 3F | MCU PWB | Not used | -- |
| 44 | ROS | Not used | -- |
| 46 | MCU PWB | Not used | -- |
| 47 | Heat Roll Heat Lamp, Pressure Roll Heat Lamp | Heat Roll Heat Lamp, Pressure Roll Heat Lamp On (L) +5 VDC | 10.2 |
| 4C | MCU PWB | Not used | -- |
| 52 | Paper Handling Motor | Not used | -- |
| 53 | Fuser Motor, Paper Handling Motor | Motor On (L) +5 VDC | 4.1 |
| 54 | Process Drive Unit | Process Motor On (L) +7.27 VDC | 9.2 |
| 56 | Dispense Clutch | Dispense Clutch On (L) +24 VDC | 9.5 |
| 57 | Fuser Motor, Paper Handling Motor | Motor Speed 0 On (L) +5 VDC | 4.1 |
| 60 | Developer Fan | Developer Fan High Speed | 9.4 |
| 61 | Developer Fan | Developer Fan On (H) +24 VDC | 9.4 |
| 62 | Fuser Motor, Paper Handling Motor | Motor Speed 1 On (L) +5 VDC | 4.1 |
| 63 | Fuser Fan | Fuser Fan On (H) +24 VDC | 10.3 |
| 64 | Fuser Chute Fan | Fuser Chute Fan On (L) +5 VDC | 10.3 |
| 65 | Fuser Fan | Fuser Fan High Speed (H) +24 VDC | 10.3 |
| 66 | Cleaner Cam Solenoid | Cleaner Cam Solenoid On (L) +24 VDC | 9.8 |
| 67 | ADC Sensor | ADC Solenoid On (L) +24 VDC | 9.5 |
| 70 | BTR 2 Cam Clutch | BTR 2 Cam Clutch On (L) +24 VDC | 9.8 |
| 71 | Erase Lamp | Erase Lamp On (H) +5 VDC | 9.9 |
| 72 | ADC Sensor | ADC LED On (L) +5 VDC | 9.5 |
| 74 | ROS | Not used | -- |
| 75 | Cartridge Sensor | Cartridge Sensor On (H) +5 VDC | 9.3 |
| 77 | Sorter Option Installed | Start | 11.2 |

**Table 2 Digital Output Codes**

| DO Code | Component | Signal | BSD Ref |
|---|---|---|---|
| 84 | LVPS | Energy Star On | 1.1 |
| 85 | Exit Chute Fan | Exit Chute Fan On (H) +24 VDC | 10.3 |
| A0 | Inverter Motor | Inverter Motor On (H) +5 VDC | 10.8 |
| A1 | Enter Clutch | Enter Clutch On (L) +24 VDC | 10.6 |
| A2 | Duplex Drive Clutch | Duplex Drive Clutch On (L) +24 VDC | 10.7 |
| A3 | Forward Clutch | Forward Clutch On (L) +24 VDC | 10.6 |
| A4 | Reverse Clutch | Reverse Clutch On (L) +24 VDC | 10.6 |
| A5 | Duplex Nip Solenoid | Duplex Nip Solenoid Push (L) +24 VDC | 10.5 |
| A6 | Duplex Nip Solenoid | Duplex Nip Solenoid Pull (L) +24 VDC | 10.5 |
| B0 | Takeaway Clutch Tray 2 | Takeaway Clutch On (L) +24 VDC | 8.3 |
| B1 | Takeaway Clutch Tray 3 | Takeaway Clutch On (L) +24 VDC | 8.4 |
| B2 | Lift Up Clutch Tray 2 | Lift Up Clutch On (L) +24 VDC | 7.3 |
| B3 | Lift Up Clutch Tray 3 | Lift Up Clutch On (L) +24 VDC | 7.4 |
| B4 | Turn Clutch Tray 2 | Turn Clutch On (L) +24 VDC | 8.3 |
| B5 | Turn Clutch Tray 3 | Turn Clutch On (L) +24 VDC | 8.4 |
| B6 | Nudger Solenoid Tray2 | Nudger Solenoid On (L) +24 VDC | 8.3 |
| B7 | Nudger Solenoid Tray3 | Nudger Solenoid On (L) +24 VDC | 8.4 |
| B8 | Feeder Motor | Feeder Motor On (L) +24 VDC | 8.5 |
| B9 | Option Feeder | Unused | |
| C0 | Sorter Feed Motor | On | 11.3 |
| C1 | Sorter Feed Motor | Hi speed | 11.3 |
| C2 | Sorter Feed Motor | Mid speed | 11.3 |
| C3 | Sorter Feed Motor | Lo speed | 11.3 |
| C4 | Sorter Feed Motor | Super Low speed | 11.3 |
| C5 | Bin Drive Motor | Bin Drive Motor Down | 11.4 |
| C6 | Bin Drive Motor | Bin Drive Motor Up | 11.4 |

# GP 3 Setting IOT Parameters and Life Counters

The purpose is to display, set up and/or reset the parameters stored in the NVM of the IOT.

## Procedure

1. Enter the Diagnostic Mode (GP 1).
2. Press the **Menu** button until **IOT PARAM SET** is displayed.
3. Press the **Item Enter** button.
4. The following menu items become available, and pressing the Up Arrow or Down Arrow button will toggle the display to scroll through them.
   - **CTRL VAL SET** - selecting this item allows you to select menu items and set or reset the values for the parameters as shown in the Table 1.
   - **LIFE COUNT SET** - selecting this item allows you to select menu items and view the current value of the counters shown in the Table 3.
   - **LIFE COUNT RESET** - selecting this item allows you to select menu items and change the value of the counters shown in the Table 3.

   Press the **Item Enter** button when the desired selection is displayed in order to make a selection.
5. To set up IOT parameters, press the **Item Enter** button when **CTRL VAL SET** is displayed. Then perform the following steps:
   a. Press the Up Arrow or Down Arrow button to select the Menu Number for the parameter to be set from the Table 1.
   b. Press the **Item Enter** button to display the current value of the parameter selected.
   c. Press the Up Arrow or Down Arrow button to set the value as required.
   d. Press the **Item Enter** button to update the new value, or press the **Clear/Stop** button to return to the **IOT PARAM SET** display without updating the data.

**Table 1 Items for the IOT Parameters**

| Menu No. | Function | Default Value | Maximum Value | Minimum Value | Unit |
|---|---|---|---|---|---|
| 01 | Cycle Down Wait Timer | 0 | 255 | 0 | |
| 02 | Hold Wait Timer | 2 | 255 | 0 | |
| 03 | Duplex Mode | 0 | 1 | 0 | |
| 04 - 07 | Unused | | | | |
| 08 | Set Toner Density Yellow | 3 | 5 | 1 | |
| 09 | Set Toner Density Magenta | 3 | 5 | 1 | |
| 0A | Set Toner Density Cyan | 3 | 5 | 1 | |
| 0B | Set Toner Density Black | 3 | 5 | 1 | |
| 0C - 10 | Unused | | | | |
| 11 | Side-to-Side Registration | 8 | 28 | 244 (-12)** (Table 2) | 0.50 mm |
| 18 - 21 | Unused | | | | |
| 16 | Top-to-Bottom (Tray 1) | 30 | 64 | 0 | 0.17 mm |
| 17 | Top-to-Bottom (Tray 2) | 37 | 64 | 0 | 0.17 mm |
| 18 | Top-to-Bottom (Tray 3) | 35 | 64 | 0 | 0.17 mm |

**Table 1 Items for the IOT Parameters**

| Menu No. | Function | Default Value | Maximum Value | Minimum Value | Unit |
|---|---|---|---|---|---|
| 19 | Top-to-Bottom (Bypass Tray) | 28 | 64 | 0 | 0.17 mm |
| 1A | Top-to-Bottom (Duplex Tray) | 17 | 64 | 0 | 0.17 mm |
| 1B | Mismatch Enable | 0 | 1 | 0 | 0 =Enable<br>1 =Disable |
| 1C - 1E | Unused | | | | |
| 1F | BTR2: Offset: Plain Paper | 3 | 5 | 1 | |
| 20 | BTR2: Offset: Transparency | 3 | 5 | 1 | |
| 22 | BTR2: Offset: Heavy Weight | 3 | 5 | 1 | |
| 25 | BTR2: Offset: Coated Paper | 3 | 5 | 1 | |
| 2a | BTR2: Offset: Label | 3 | 5 | 1 | |
| 2B | BTR2: Offset: Postcard | 3 | 5 | 1 | |
| 2C | BTR2: Offset: Envelope | 3 | 5 | 1 | |
| 2D | Country | 0 | 01 | 0 | |

6. ** Refer to the following list for the offsets (in mm) of the setting from the default in the table.

**Table 2**

| | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Value Entered | 28 | 27 | 26 | 25 | 24 | 23 | 22 | 21 | 20 | 19 | 18 | 17 | 16 | 15 |
| Offset (mm) | +10.0 | +9.5 | +9.0 | +8.5 | +8.0 | +7.5 | +7.0 | +6.5 | +6.0 | +5.5 | +5.0 | +4.5 | +4.0 | +3.5 |
| Value Entered | 14 | 13 | 12 | 11 | 10 | 09 | 08 | 07 | 06 | 05 | 04 | 03 | 02 | 01 |
| Offset (mm) | +3.0 | +2.5 | +2.0 | +1.5 | +1.0 | +0.5 | 0 | -0.5 | -1.0 | -1.5 | -2.0 | -2.5 | -3.0 | -3.5 |
| Value Entered | 00 | 255 (-1) | 254 (-2) | 253 (-3) | 252 (-4) | 251 (-5) | 250 (-6) | 249 (-7) | 248 (-8) | 247 (-9) | 246 (-10) | 245 (-11) | 244 (-12) | |
| Offset (mm) | -4.0 | -4.5 | -5.0 | -5.5 | -6.0 | -6.5 | -7.0 | -7.5 | -8.0 | -8.5 | -9.0 | -9.5 | -10.0 | |

7. To view the current values of the counters, press the **Item Enter** button when **LIFE COUNT SET** is displayed. The display will change to allow you to enter a menu number from the Table 3. Then perform the following steps:
   a. Use the Up and Down Arrow buttons to enter a menu number from the table.
   b. Press the **Item Enter** button.
   c. The display will change to show **LIFE COUNT (xx)** which represents the menu number you selected, and also displays **XXXXXXX** which represents the counter value in numbers, and not in Xs.
8. To change or reset the value of a counter, press the **Item Enter** button when **LIFE COUNT RESET** is displayed. The display will change to allow you to enter a menu number from the Table 3. Then perform the following steps:
   a. Use the Up and Down Arrow buttons to enter a menu number from the table.
   b. Press the **Item Enter** button.
   c. The display will change to show **LIFE COUNT (xx)** which represents the menu number you selected, and also displays **XXXXXXX** which represents the counter value in numbers, and not in Xs.
   d. Use the Up and Down Arrow buttons to change the value as required, or to reset the counter to 0.
   e. Press the **Item Enter** button.

**Table 3 Life Counters**

| Menu No | Function | Remarks | Life / Reset |
|---|---|---|---|
| 0 | Drum Cartridge | TR0 Sensor counts. Records all Drum/IBT cycles (including cycle-up, power-on, etc.) | Each TR0 signal increments the counter by 2. Information is stored on the drum cartridge CRUM, and meter. Cartridge life warning is at 90K, life end is at 110K. |
| 1 | Dry Ink Cartridge Y | Cumulative Dispense Time (100 msec) | Automatically reset with new cartridge replacement. Condition checked at power on sequence. Cartridge life warning at 9080 and life end at 10K. |
| 2 | Dry Ink Cartridge M | Cumulative Dispense Time (100 msec) | Automatically reset with new cartridge replacement. Condition checked at power on sequence. Cartridge life warning at 9080 and life end at 10K. |
| 3 | Dry Ink Cartridge C | Cumulative Dispense Time (100 msec) | Automatically reset with new cartridge replacement. Condition checked at power on sequence. Cartridge life warning at 9080 and life end at 10K. |
| 4 | Dry Ink Cartridge K | Cumulative Dispense Time (100 msec) | Automatically reset with new cartridge replacement. Condition checked at power on sequence. Cartridge life warning at 9080 and life end at 10K. |
| 5 | Printer (1) | Value increments with each deactuation of the Fuser Exit Sensor | Not required or recommended |
| 6 | Unused | | |

**Table 3 Life Counters**

| Menu No | Function | Remarks | Life / Reset |
|---|---|---|---|
| 7 | Printer (2) | Value increments with each deactuation of the Fuser Exit Sensor and is multiplied by the following: for b/w less than 219 mm in process length indexes 1. B/w more than 219 mm advances 2x. Color less than 219 mm advances 4x, and longer than 219 mm advances 8x. | Provides a cumulative count of the number of color separations produced by the system. Reset is not required or recommended. |
| 8 | Unused | | |
| 9 | BTR 2 | Increments the same for color and for b/w based upon the deactuation of the Fuser Exit Sensor. The value increments 1 for sheets less than 219 mm in the process length and 2 if greater than 219 mm. | Counter must be manually reset following replacement. Information was originally intended to enable replacement at prescribed intervals. This feature is disabled in this product. |
| 10 | Belt Cleaner | Increments the same for color and b/w based upon the deactuation of the Fuser Exit Sensor. The value increments 1 for sheets less than 219 mm in process length, and 2 if length is greater than 219 mm. | Counter must be manually reset following replacement. Information was originally intended to enable replacement at prescribed intervals. This feature is disabled in this product. |
| 11 | Unused | | |
| 12 | Unused | | |
| 13 | Developer Y | Each TR0 signal increments the counter by 2, if the color is required. | Counter must be manually reset following replacement. |
| 14 | Developer M | Each TR0 signal increments the counter by 2, if the color is required. | Counter must be manually reset following replacement. |
| 15 | Developer C | Each TR0 signal increments the counter by 2, if the color is required. | Counter must be manually reset following replacement. |
| 16 | Developer K | Each TR0 signal increments the counter by 2, if the color is required. | Counter must be manually reset following replacement. |
| 20 | IBT Belt | Each TR0 signal increments the counter by 2, if the color is required. | Counter must be manually reset following replacement. |

9. Press the **Menu** button to return to **DIAG EXIT**, and press the **Item Enter** button to write to the NVM.

## GP 4 Reading or Writing to IOT NVM

The purpose is to read and/or change the values in the IOT NVM

### Procedure

1. Enter the Diagnostic Mode (GP 1).
2. Press the Menu button until **IOT NVM R/W** is displayed.
3. Press the **Item Enter** button until the **ADDRESS** screen is displayed.
4. Press the Up Arrow or Down Arrow button to display the address to be checked.
5. Press the Item Enter button to display the current value.
6. Use the Up Arrow or Down Arrow button to change the value as required.
7. Press the **Item Enter** button to change the value.
8. Press the **Menu** button to return to the **DIAG EXIT** screen, then press the **Item Enter** button to write the new value into NVM.

## GP 5 Setting up Meters

The purpose is to reset the meters to zero.

### Procedure

1. Enter the Diagnostic Mode (GP 1).
2. Press the **Menu** button until **METER SETUP** is displayed.
3. Press the **Item Enter** button. **METER CLEAR NO** is displayed.
4. Press the Up or Down Arrow button to toggle the display between **METER CLEAR NO** and **METER CLEAR YES**.
5. Select the appropriate response, then press the **Item Enter** button. The display will change to **METER COPY NO**.
6. The Up or Down Arrow button toggles the display between **METER COPY NO** and **METER COPY YES**. Select the appropriate response.

   If **METER COPY NO** is selected, the display will default to the following:

   a. **SHOW IN USR MODE NO ***
   b. **SHOW IN USR MODE MODE2**
   c. **SHOW IN USR MODE MODE1**

   ***NOTE:*** *The asterisk in selection (a) represents meter counts currently shown.*

   If **METER COPY YES** is selected, the display will read **METER COPY M TO S**. (M refers to master memory and S refers to slave memory.) Press the Up or Down Arrow button to toggle the display between **METER COPY M TO S** and **METER COPY S TO M**.

   ***NOTE:*** *Selecting **METER COPY M TO S** takes the master values from the machine and writes to the slave memory. Selecting **METER COPY S TO M** takes the slave memory values and writes them to the machine master memory.*
7. Select the appropriate meter mode.
8. Press the **Item Enter** button to reset the meters as required.
9. Verify that the meters have been reset by checking the Billing Meters (GP 11).

## GP 6 Initializing Data (IOT)

The purpose is to clear the data from **NVM** or **SLAVE** memory.

### Procedure

**CAUTION**

*Do not perform this procedure unless instructed to do so by the Service Manual. The Service Manual will provide the specific directions for clearing the NVM or SLAVE memory as required.*

1. Enter the Diagnostic Mode (IOT) (GP 1).
2. Press the **Menu** button until **INITIALIZING DATA** is displayed.
3. Press the **Item Enter** button.
4. **IOT NVM CLEAR NO** will be displayed.
5. Use the up or down arrow buttons to change from **NO** to **YES**.
6. Press the **Item Enter** button.
7. **IOT SLAVE CLEAR NO** will be displayed.
8. Use the up or down arrow buttons to change from **NO** to **YES**.
9. Press the **Item Enter** button.

## GP 7 Changing Service Password (IOT)

The purpose is to change the password.

### Procedure

1. Enter the Diagnostic Mode (GP 1).
2. Press the **Menu** button until CHANGE PASSWORD is displayed.
3. Press the **Item Enter** button.

   ***NOTE:*** *In the following step, XXXX refers to the currently assigned password.*

4. The following message is displayed:

   **CHANGE PASSWORD**

   **XXXX**
5. Change the password to the new password desired, then press the **Item Enter** button. **INPUT AGAIN** is displayed.
6. Re-enter the new password again, then press the **Item Enter** button. **DONE** is displayed.
7. Press the **Menu** button to scroll until **DIAG EXIT** is displayed.
8. Press the **Item Enter** button. The following message will appear:

   **WRITING DATA**

   **PLEASE WAIT**
9. The machine will update any changes that were made in diagnostics. When the update is complete, the following message will appear:

   **PLEASE POWER OFF**
10. Switch off then switch on the machine power. The new password will be enabled.

## GP 8 IOT Software Installation

The purpose is to load, reload, or upgrade IOT software relative to the MCU PWB and 1394 PWB.

### Procedure

**Preparing to Download Software:**

1. Ensure that the software file to be downloaded resides on your PC. If not, copy the new software to any directory (e.g. Temp) on the hard disk.

   ***NOTE:*** *Ensure that there are no other versions of the software file you intend to copy on your PC.*

2. Print a Configuration Page (GP 14) to confirm the current Printer software version.

   (This is the number found after the heading, **Engine FW Version: X.X.XX** for the MCU PWB and **FW Version: VX.XX** found after the heading 1394-IF)

   ***NOTE:*** *At the end of this procedure, another Configuration Page will be printed and the updated version of the software will be compared to the first Configuration Page printed to determine that this software installation procedure was successful.*

3. Connect the Printer to the PC with the parallel cable.
4. Ensure that the IOT Parallel Port is on.
   a. Press the **Menu** button until **I/O PORT SETUP** is displayed.
   b. Press the **Item Enter** button until **PARALLEL PORT** is displayed.
   c. Use the Up and Down Arrow buttons to ensure that **PARALLEL PORT ON** is displayed.
   d. Press the **Clear/Stop** button to return the machine to **READY**.

**Executing the Download:**

1. Enter the Diagnostics mode, then wait for the Printer to initialize (GP 1).
2. When **DI TEST** appears on the display, press the **Menu** button until **INSTALL MCU F/W** is displayed. Do not press the **Item Enter** button at this time.
3. On the PC prepare the DOS window:

   ***NOTE:*** *Type the entries as shown, while carefully observing the spaces or lack of spaces.*

   a. Select **Start**, **Programs**, and **MSDOS Command Prompt**
   b. Type in **cd** then press the **Enter** key. The display will show **c:\>**
   c. Type in **cd temp** then press the **Enter** key
   d. Type in **C:\Temp COPY /b filename lpt1:**

      (filename in this case will be the actual name of the MCU software file you intend to download)
   e. Do not press the **Enter** key
4. At the Printer press the **Item Enter** button. The Printer will enter the **Waiting** state to receive data from the PC.

***NOTE:*** *A timeout will result if the following data transfer from the PC is not performed within 30 seconds.*

5. At the PC press the **Enter** key. The display will read **1 file(s) copied**. The Control Panel on the Printer will display **DOWNLOADING**. When the download is complete, the Control Panel will display **DOWNLOADING SUCCESSFUL**.

   If the download was not successful, the Control Panel will display the message, **FIRMWARE INSTALL FAILED**. The procedure will have to be repeated.
6. Switch off, then switch on the printer power to exit the Diagnostics mode.
7. Print a Configuration Page (GP 14) to confirm the successful download of the MCU PWB software.
8. Enter the Diagnostic Mode (GP 1), then wait for the Printer to initialize.
9. When **DI TEST** appears on the display, press the **Menu** button until **INSTALL 1394 F/W** is displayed. Do not press the **Item Enter** button at this time.
10. On the PC prepare the DOS window, as before, substituting the new filename for the 1394 software to be downloaded. Do not press the **Enter** key.
11. At the Printer press the **Item Enter** button. The Printer display will read **DOWNLOAD MODE READY TO RECEIVE**.

    ***NOTE:*** *A timeout will result if the following data transfer from the PC is not performed within 30 seconds.*
12. At the PC press the **Enter** key. The PC display will read **1 file(s) copied**. The Control Panel on the Printer will change to display **DOWNLOAD 1394 RECEIVING DATA**. When the download is complete, the Control Panel will display **DOWNLOAD 1394 DONE**.
13. Switch off, then switch on the printer power to exit the Diagnostics mode.
14. Print a Configuration Page (GP 14) to confirm the successful download of the 1394 PWB software.

# GP 9 ESS Software Installation (IOT)

The purpose is to load, reload, or upgrade ESS software.

## Procedure

**Preparing to Download Software:**

1. Ensure that the software file to be downloaded resides on your PC. If not, copy the new software to C:\Temp.

   ***NOTE:*** *Ensure that there are no other versions of the software file you intend to copy on your PC.*
2. Print a Configuration Page (GP 14) to confirm the current Printer software version.

   (This is the software date and version number found after the heading, **Printer Information, Controller FW Date: VX.XX** )

   ***NOTE:*** *At the end of this procedure, another Configuration Page will be printed and the updated version of the software will be compared to the first Configuration Page printed to determine that this software installation procedure was successful.*
3. Connect the Printer to the PC with the parallel cable.
4. Ensure that the Printer Parallel Port is on.
   a. Press the **Menu** button until **I/O PORT SETUP** is displayed.
   b. Press the **Item Enter** button until **PARALLEL PORT** is displayed.
   c. Use the Up and Down Arrow buttons to ensure that **PARALLEL PORT ON** is displayed.
   d. Press the **Clear/Stop** button to return the machine to **READY**.

**Executing the Download:**

1. Prepare the Printer for ESS Software installation.
   a. Switch off the Printer power.
   b. Simultaneously press and hold the Arrow Down and **Clear/Stop** buttons.
   c. Switch on the Printer power.
   d. Release the buttons after the row of pound signs appears on the display.
2. Upon completion of self-test, **VERSION INFO** will be displayed.
3. Press the **Menu** button until **INSTALL UPGRADES** is displayed. Press the **Item Enter** button.
4. Press the DOWN ARROW button to select **FILE SYSTEM**. Do not press the **Item Enter** button.
5. On the PC prepare the DOS window:

   ***NOTE:*** *Type the entries as shown, while carefully observing the spaces or lack of spaces.*

   a. Select **Start**, **Programs**, and **MSDOS Command Prompt**
   b. Type in **cd** then press the **Enter** key. The display will show **c:\>**
   c. Type in **cd temp** then press the **Enter** key
   d. Type in **C:\Temp COPY /b filename lpt1:**

      (filename in this case will be the actual name of the MCU software file you intend to download)
   e. Do not press the **Enter** key

6. At the Printer press the **Item Enter** button. The Printer will enter the **WAITING** state to receive data from the PC.

   ***NOTE:*** *A timeout will result if the following data transfer from the PC is not performed within 30 seconds.*

7. At the PC press the **Enter** key. The display will read **1 file(s) copied**. The Control Panel on the Printer will display **DOWNLOADING**. During the download, the length of the line will indicate the time progress. When the download is complete, the Control Panel will display **PROCESSING FILE**.

   If the download was not successful, the Control Panel will display the message, **FIRMWARE INSTALL FAILED**. The procedure will have to be repeated.

8. When **PROCESSING FILE** is complete, the display will read **INSTALL: FILE SYSTEM**.
9. Press the **Clear/Stop** button to exit and reboot the system.
10. After the files are updated, press the **MENU** button to access the **CLEAR NVRAM PARAMETERS** selection.
11. Press the **Item Enter** button (**NO** is displayed). Press the Up Arrow button to change **NO** to **YES** and then press the **Item Enter** button to enable the change. The message **CLEAR NVRAM SUCCESSFUL** will appear and then change to **CLEAR NVRAM PARAMETERS**.
12. Press the **Clear/Stop** button to reboot the Printer.
13. Print the Configuration Page (GP 14) and verify that the version (yymmdd) has been updated.

# GP 10 IIT Software Installation

The purpose is to load, reload, or upgrade IIT software.

## Procedure

**CAUTION**

*The software Installation procedure commences from a Scanner power off condition. Once the procedure for downloading has started, do not switch off the power until all steps have been completed and you have been instructed to do so.*

1. Verify the software file version on the Scanner.
2. Prepare the Scanner for download:
   a. With a ballpoint pen or similar instrument such as a small screwdriver, press and hold the switch located between the two SCSI connectors, at the rear of the Scanner.
   b. Switch on the main power.
   c. When the message, **Ready to Download** appears on the Scanner Control Panel, release the switch.
3. Connect the PC to the Scanner at the serial port of the Scanner with an RS-232-C cable.
4. On the PC, setup the Hyperterminal (or other software) as follows:
   a. Select **Start**, **Programs**, **Accessories**, **Hyperterminal**, **Hyperterminal**
   b. When the Hyperterminal dialogue box opens, type in **Comm.port**
   c. Select **OK** or press the **Enter** key
   d. When the **Connect to** dialogue box opens, select the appropriate Com port, and select **OK** or press the **Enter** key
   e. When the Port Settings dialogue box opens, setup the following parameters:
      i. Bits per second: **115200** (if results are not satisfactory, change the rate as required)
      ii. Data bits: **8**
      iii. Parity: **None**
      iv. Stopbits: **1**
      v. Flow Control: **None**
      vi. Select **OK** or press the **Enter** key
5. Set up ASCII for Local Echo (Scanner does not echo back input characters. Therefore, this must be set to ON)
   a. Select **File**, **Properties**, **Settings**, and **ASCII Setup**
   b. Select **Echo Typed Characters Locally**, **OK**, and **OK**
6. Establish communications with the Scanner
   a. In Hyperterminal, select **Call**, **Disconnect** and then **Call**, **Connect**
   b. Press the **Enter** key once or twice, for the login prompt to appear
   c. Type in the user name, **tsubaki** in lower case letters
   d. Press the **Enter** key, for the command prompt, **TBK>** to appear
7. Begin downloading
   a. Type in **download** and press the **Enter** key. The Scanner Control Panel will display the message **Downloading...**
   b. In Hyperterminal on the PC, select **Transfer**, **Send File**, and then the **Send File** dialogue screen will appear

c. filename: specify the name of file to be downloaded to the Scanner

d. Protocol: select **Xmodem**

e. Press the **Send** or press the **Enter** key to start

f. Press the Scanner switch once (at the rear of scanner). The downloading will commence and the Scanner Control Panel will display the message **Downloading...**

g. The **Tools** button on the scanner should be blinking during the download.

8. Download of the files is complete when the Scanner Control Panel indicates the message: **Downloading... Done**
9. To download more files:
   a. Prepare the Scanner for download again, as per step 1 of this procedure
   b. go back to Disconnect, Connect, Transfer, Send Files, and repeat
10. After all files required have been downloaded to the Scanner, switch off the power and then switch on the power.
11. Verify that the software was downloaded to the Scanner.
    a. Switch off then switch on the Scanner power
    b. Press the **Tools** button
    c. Select **Maintener menu** then press the **Select** button
    d. Enter the password (9999 is the default)
    e. Press select then scroll down to **Version Info**
    f. Press the **Select** button
    g. Scroll down to verify the file version

# GP 11 Checking the Billing Meters

The purpose is to display the number of prints or copies made.

## Procedure

1. Enter the Diagnostic Mode (GP 1).
2. Press the **Menu** button until **METER** is displayed.
3. Press the **Item Enter** button. **READ MASTER** is displayed.
4. Press the **Item Enter** button.
5. Use the Up and Down arrow buttons to scroll through the menu of billing meter values (Table 1).

   ***NOTE:*** *The XX in the following table will represent the values that have been counted, and will appear as numerals on the display.*

**Table 1 Billing Meter Values**

| Category |
|---|
| COLOR PRINT SM IMAGES XX |
| COLOR COPY SM IMAGES XX |
| COLOR PRINT LG IMAGES XX |
| COLOR COPY LG IMAGES XX |
| B/W PRINT IMAGES XX |
| B/W COPY IMAGES XX |
| TOTAL COPY/PRINT IMAGES XX |
| 2 COLOR COPY IMAGES XX |
| COLOR PRINT IMAGES XX |
| COLOR COPY IMAGES XX |
| TOTAL PRINT IMAGES XX |
| TOTAL COPY IMAGES XX |

## GP 14 Printing a Configuration Page

The purpose is to allow the Service Representative to print a machine configuration page.

1. Press the **Menu** button on the Printer until **PRINT PAGES FROM LIST** appears on the display.
2. Pressing the Up or Down Arrow buttons displays the following menu items:
   - **PRINT CONFIGURATION**
   - **PRINT TEST PATTERN**
   - **PRINT EVENT LOG**
   - **PRINT DEMO PAGE**
   - **PRINT JOB LOG**
   - **PRINT PCL FONT LIST**
   - **PRINT PS FONT LIST**
   - **PRINT MENU HELP**
   - **PRINT TEST PAGE**
3. Press the **Item/Enter** button until **PRINT CONFIGURATION** appears on the display.
4. Press the **Item/Enter** button to print the page.
5. A Configuration report will be delivered to the tray.

## GP 15 Printing Internal Test Patterns (IOT)

The purpose is to print the built-in test patterns.

### Procedure

1. Enter the Diagnostics Mode (GP 1).
2. Press the Menu button until **PATTERN PRINTING** is displayed.
3. Press the **Item Enter** button.
4. Load the appropriate paper into Paper Tray 1.
5. Use the Up and Down arrow buttons to scroll through the menu of test patterns (Table 1).
6. Press the **Item Enter** button to select a test pattern to print.
7. The machine will enter a **PROCESSING JOB FROM TRAY 1** mode and deliver the test pattern.

### Menu Options

Table 1 displays the menu of test patterns available.

**Table 1 Menu of Test Patterns**

| Test Patterns | Details |
|---|---|
| GRID IOT | Prints an IOT built-in grid pattern on 8.5 x 11 inch (A4) paper |
| GRID ESS | Prints an ESS built-in grid pattern on 11 x 17 inch (A3) paper |
| C 20% | Prints an entire 11 x 17 inch (A3) page filled with cyan dry ink at 20% density |
| M 20% | Prints an entire 11 x 17 inch (A3) page filled with magenta dry ink at 20% density |
| Y 20% | Prints an entire 11 x 17 inch (A3) page filled with yellow dry ink at 20% density |
| K 20% | Prints an entire 11 x 17 inch (A3) page filled with black dry ink at 20% density |
| CMY 20% | Prints an entire 11 x 17 inch (A3) page filled with cyan, magenta, and yellow dry ink at 20% density respectively |
| GRADATION | Prints a solid pattern of densities from 0% to 100% for cyan, magenta, yellow, and black dry ink respectively |
| NIP | Prints a rectangular pattern filled entirely in 100% black dry ink to use in adjusting the Fuser Nip (ADJ 10.1) |

# GP 16 Visual Calibration

The purpose is to adjust the color visually if you have color problems such as, insufficient amounts of one or more colors, or excessive amounts of one or more colors.

## Procedure

1. Ensure that **Ready** is displayed on the Control Panel with no warning messages.
2. Press the **Menu** button until **VISUALCAL** is displayed.
3. Press the **Item Enter** button. **PRINT LIMITS YES** is displayed.
4. Press the **Item Enter** button. **PRINTING LIMITS PAGE** is displayed and after a few moments, the page is delivered to the Output Tray.
5. Under normal lighting, evaluate the Black Start row (view the page at an angle for the best results).
   a. Select the left-most circle that you can distinguish from background and draw a circle around it.
   b. Select the left-most circle that you can distinguish from the background on the next row, Black End, and draw a circle around it.
   c. If you cannot see any circle in the row, write **9** next to the row.
   d. If you see all the circles in a row, write **0** next to the row.
6. Repeat step 5 for each of the color rows, drawing circles around your preferred selections or recording a **9** or **0** next to the row.
7. For the 30% Match row, hold the sheet at arms length. Select the circle that best matches the background and draw a circle around it.
8. **BLACK START 4** is displayed on the Control Panel. Press the Up and Down arrow buttons to enter the number that corresponds to the value that you selected on the first row.
   a. When the desired number is displayed, press the **Item Enter** button. **BLACK END 4** is displayed.
   b. Press the Up and Down arrow buttons to enter the number that corresponds to the value that you selected on the next row.
   c. Press the **Item Enter** button. **CYAN START 4** is displayed.
9. Repeat step 8 for each of the color rows and for the 30% Match row.

   ***NOTE:*** *If a 9 or 0 was entered for any row, VISUALCAL will generate another Print Limits Page containing the adjustments from your previous selections. Perform step 8 again until you are able to select circles within the desired 1 to 8 range.*

10. When all the values are entered and accepted by VISUALCAL, **PRINT GRAYS YES** is displayed.
11. Press the **Item Enter** button. **PRINTING GRAY BALANCE PAGE** is displayed and after a few moments, the page is delivered to the Output Tray.
    a. Select the color patch that is most like the gray that surrounds the color patches.
    b. Circle your selection.
12. **BEST PATCH (ROW)** is displayed. Press the Up and Down arrow buttons to enter the number of the row that corresponds to your circled selection.
13. Press the **Item Enter** button and perform one of the following steps:
    a. If you have entered any number other than 0, **BEST PATCH (COL)** is displayed.
       i. Press the Up and Down arrow buttons to select the letter or name of the column that corresponds to your circled selection.
       ii. Press the **Item Enter** button. **PRINTING GRAY BALANCE PAGE** is displayed, and after a few moments the page is delivered to the Output Tray.
       iii. Select the color patch that is most like the gray, and perform steps 12 and 13 again.
    b. If you have entered 0, **PRINT COLOR TEST YES** is displayed.
       i. Press the **Item Enter** button, and after a few moments the Comparison Page is delivered to the Output Tray

***NOTE:*** *The Comparison Page allows you to see the changes that you made during the VISUALCAL adjustment. On the page are four rows of color photographs. The first row and the third row show the color setup before you selected VISUALCAL. Rows two and four show the color setup after the VISUALCAL adjustment was completed. Now you must decide which setup is preferred.*

14. Evaluate the Comparison Page and perform one of the following steps:
    a. If you are satisfied with your adjustments, press the Item Enter button. **VISUALCAL** is displayed.

       The system saves your changes and after a few moments **READY** is displayed.
    b. If you are not satisfied with your adjustments, press the Down arrow button and ensure that **NO** is displayed.

       Press the **Item Enter** button. **APPLY CHANGES DEFAULT COLOR** is displayed.

       The system erases your adjustments, returns to the color default settings, and after a few moments **READY** is displayed.

## GP 17 Foreign Interface

Refer to the 003-333 Foreign Interface RAP in Section 2.

## GP 18 Identifying Pin 1 on a Double Plug

The purpose is to locate pin #1 on a double plug configuration.

### Procedure

1. Hold the plug as shown in Figure 1.

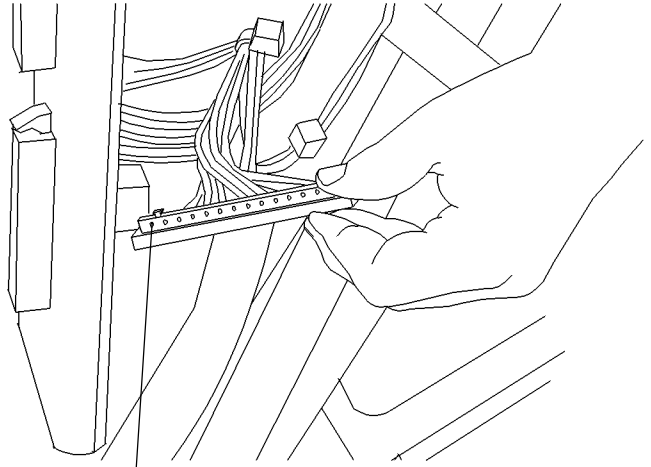


**Figure 1 Identifying Pin 1 on a Double Plug**

# GP 19 Diagnostic Mode (IIT)

## Entering the Diagnostic Mode

1. Switch on the power to the Scanner.
2. Ensure that the Scanner display reads **Ready to copy**.
3. Press and hold the **0** key for at least three seconds.
4. While continuing to hold the **0** key, press the **Start** button. The display will reverse from dark characters on light background to light characters on dark background.
5. Press the **Tools** button.
6. Press the Down Arrow button to highlight **Administrator menu**.
7. Press the **Select** button.
8. Press the Down Arrow button until **SelfDiag** is highlighted.
9. Press the **Select** button. The following menu is displayed:
   - **Auto diag**
   - **Systemdata R/W**
   - **ClearMem**
   - **Memory R/W**
   - **TestPrint**
   - **Diag-Code**
10. Figure 1 below shows the Scanner Control Panel.

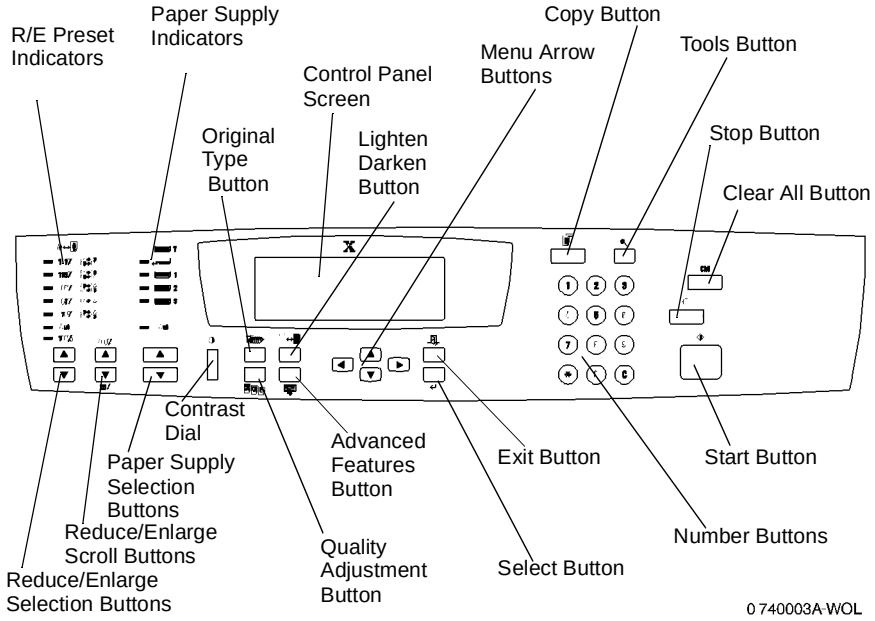


**Figure 1 The Scanner Control Panel**

## Exiting the Diagnostic Mode

To exit from IIT diagnostics mode, perform the following:

1. If a diagnostic test is under way, press the **Exit** button to stop the on-going test.
2. Press the **Exit** button until the **Choose, and Press Select**, **Administrator menu** screen is displayed.
3. Press the **Tools** button.

## GP 20 Setting IIT Parameters

The purpose is to set up and display the parameters stored in the NVM of the IIT.

### Procedure

1. Enter the Diagnostic Mode (IIT) (GP 19).
2. Highlight **Systemdata R/W** then press the **Select** button.
3. Enter the **Chain** number, press the Down Arrow button, then enter the **Link** number.
4. Press the **Item Enter** button to confirm the present values.
5. Change the parameter values as required (Refer to Table 1 and Table 2).
6. To change the values:
   a. Press the Down Arrow button.
   b. Press the **C** button.
   c. Enter the new value using the number buttons.
   d. Press the **Start** button.
   e. Press the **Select** button to verify that the value has changed.

   ***NOTE:*** *To enter a letter hexadecimal value, press the asterisk key prior to entering each letter value, then press the appropriate numerical key as follows: A=1, B=2, C=3, D=4, E=5, F=6.*

**Table 1 IIT Registration and Magnification Parameters**

| Chain | Link | Item | Min | Default | Max | Remarks |
|---|---|---|---|---|---|---|
| 715 | 3 | IIT Lead Edge Registration (ADJ 6.3) | 1 | 47h | FFh | Variation: 0.0423 mm / Step |
| | 4 | IIT Side Registration (ADJ 6.4) | 0 | 47h | FFh | Variation: 0.0423 mm / Step |
| | 2 | IIT Magnification (ADJ 6.1) | 0 | 23h | 46h | Variation: Magnification X 0.1% / Step Magnification X (96.5% - 103.5%) |

**Table 2 ADF Registration Parameters**

| Chain | Link | Item | Min | Default | Max | Remarks |
|---|---|---|---|---|---|---|
| 715 | 6 | ADF Lead Edge Registration (ADJ 5.2) | 0 | 6Eh | C2h | Variation: 0.1557 mm / Step |
| | 7 | ADF Side Registration (ADJ 5.1) | 0 | 47h | FFh | Variation: 0.0423 mm / Step |

7. To exit from the program:
   a. Press the **Exit** button until the **Choose, and Press Select**, **Administrator menu** screen is displayed.
   b. Press the **Tools** button.

## GP 21 Component Control (IIT)

The purpose is to display the logic state of input signals and to energize output components.

### Procedure

1. Enter the Diagnostic Mode (IIT) (GP 19).
2. Navigate to **Diag-Code**, and press the **Select** button.
3. The following table lists the component control codes.

| Code & Sub Code | Component | Signal | BSD Ref |
|---|---|---|---|
| 330-001 | Exposure Lamp | Exposure Lamp On (L) +5 VDC | 6.4 |
| 330-001 | Fan 1 | Fan 1 On (H) +24 VDC | 6.4 |
| 330-001 | Fan 2 | Fan 2 On (H) +24 VDC | 6.4 |
| 330-100 | Fan 1 | Fan Fail | 6.4 |
| 330-001 | APS Sensor | APS Sensor On (H) +5 VDC | 6.5 |
| 330-100 | Angle Sensor | Angle Sensor Sensed (L) +5 VDC | 6.5 |
| 330-100 | Platen Switch | Platen Open (L) +5 VDC | 6.5 |
| 330-001 | APS Sensor | APS Sensor Document Sensed (L) +5 VDC | 6.5 |
| 330-100 | IIT Registration Sensor | IIT Registration Sensor Sensed (L) +5 VDC | 6.6 |

# GP 22 Printing Internal Test Patterns (IIT)

The purpose of the Internal Test Patterns procedure is to enable the IIT to print out various modes of black and white or color prints in several patterns.

## Procedure

1. Load paper in the Bypass Tray.
2. Enter the Diagnostic Mode (IIT) (GP 19).
3. Use the up, down, left, and right arrow buttons to highlight the **Self Diag** menu and press the **Select** button.
4. Use the up, down, left, and right arrow buttons to highlight the **Test Print** menu and press the **Select** button. The following will be displayed:

   **Color Mode** __

   **Pattern** __
5. Use the number buttons to enter the number for the **Color Mode** value from Table 1 on the **Color Mode & Pattern** screen.
6. Use the Down Arrow button to scroll down to **Pattern**.
7. Use the number buttons to enter the number for the **Patterns** value from Table 1.
8. Press the **Select** button.
9. Press the **Start** button.

   ***NOTE:*** *For every Color Mode (0 - 5) there are six possible test patterns that can be printed, with the exception of Color Mode 1.*

   *Color Mode 1 is not available with Patterns 4, 5 and 6.*

   *Color Modes 3, 4 or 5 with Pattern 5 will yield a blank page.*

**Table 1 Menu of Test Patterns**

| Color Mode | Patterns |
|---|---|
| 0 - Color (Test/Photo) | 1 - Grid |
| 1 - Color (Photographic Paper) | 2 - Gradation in Main Scan Direction |
| 2 - Color (Print Photo) | 3 - Gradation in Sub Scan Direction |
| 3 - B/W (Text/Photo) | 4 - Color Patch |
| 4 - B/W (Text) | 5 - Lab Gradation |
| 5 - B/W (Photo) | 6 - Gradation in Main Scan Direction |

# General Product Specifications

## Product Codes

The product codes are shown in Table 1.

**Table 1 Product Codes**

| Product | Code |
|---|---|
| DC 2006 Copier/Printer 110 VAC | VF8 |
| DC 2006 Copier/Printer 220 VAC | VF9 |
| Phaser 790 110 VAC | VF6 |
| Phaser 790 220 VAC | VF7 |

## Installation Space Requirements

Figure 1 illustrates the space requirements for adequate ventilation and space needed for replacing the supplies.

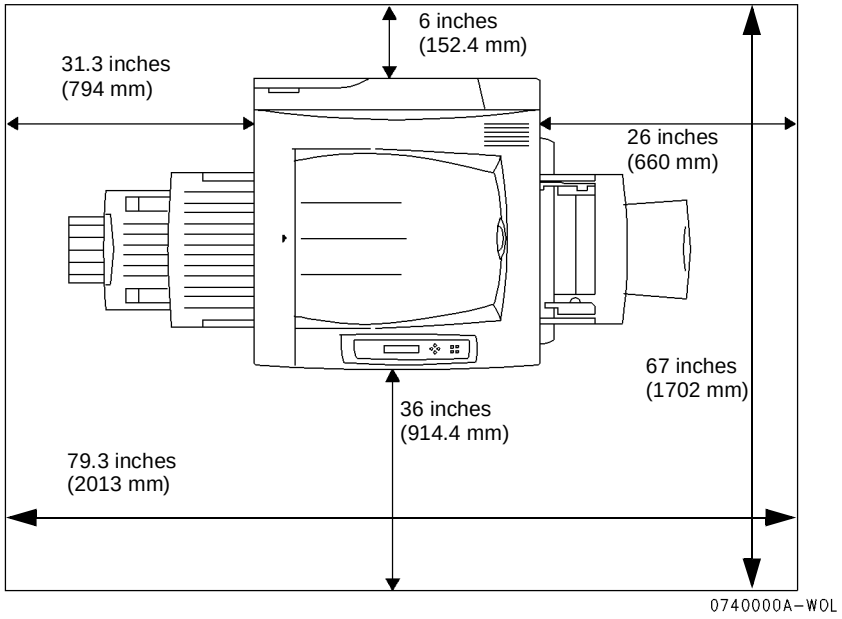


**Figure 1 Installation Space Requirements**

# IOT Specifications

## Printer Size and Weight

The following table shows dimensions and weights of the printer and options:

**Table 1**

| Unit | Width | Depth | Height | Weight |
|---|---|---|---|---|
| Printer | 25.5 in. (650 mm) | 25.4 in. (646 mm) | 21.8 in. (554 mm) | 156.6 lb. (71.2 Kg) |
| Feeder | 22 in. (560 mm) | 23.7 IN. (602 mm) | 11.5 IN. (292 mm) | 46.6 lb. (21. 2 Kg.) |
| Cabinet | 22 in. (560 mm | 27 in. (686 mm) | 18.9 in. (479 mm) | 39.6 lb. (18 Kg.) |

## Electrical Specifications

The input line voltage and frequency specifications are as follows:

**Table 2 Electrical Specifications**

| Input Voltage | Power Supply | Fuser |
|---|---|---|
| 100 VAC | 100 to 120 VAC +/- 10% (90 to 135 VAC)<br>50 Hz +/- 3 Hz, 60 Hz +/- 3 Hz | 100 VAC |
| 120 VAC | 100 to 120 VAC +/- 10% (90 to 135 VAC)<br>50 Hz +/- 3 Hz, 60 Hz +/- 3 Hz | 120 VAC |
| 220 VAC | 220 to 240 VAC +/- 10% (198 to 264 VAC)<br>50 Hz +/- 3 Hz, 60 Hz +/- 3 Hz | 220 VAC |

**Table 3 Voltage/Frequency of Operation**

| Area | Power Voltage | Frequency (Hz) |
|---|---|---|
| NASG | 110V ± 10% | 60 |
| ESG | 220-240V ± 10% | 50 |

**EME/EMI/Grounding**

- Leakage protection
  - Double Insulated Construction
- Electrical Noise
  - 100 V type (JPN) - VCCI Class 1 compliance
  - 120 V type NASG - FCC Part 15 subpart B - Class B (ANSI C63.4/11.4D)
  - 220-240 V type (ESG) - EN55022 (CISPR Publication 22) - Class B

**Machine Power Consumption**

The power consumption of the print engine, including the 500 sheet feeder and Duplex Tray, at the rated voltage in each operating mode is as follows.

**Table 4 Power Consumption**

| Mode | Watt Hours | Fuser On | Fuser Off |
|---|---|---|---|
| Running (color) | 600 or less | 1200 watts | n/a |
| Running (b/w) | 960 or less | 1220 watts | n/a |
| Ready | 250 or less | 1100 watts | 100 watts |
| Save | 200 or less | 1100 watts | 100 watts |
| Sleep | 60 or less | n/a | 60 watts |

## Environmental Specifications

**Audible Noise**

**Table 5 Audible Noise**

| | Continuous Noise | Impulse Noise |
|---|---|---|
| Stand by | 57 db | n/a |
| Copy Cycle | 72 db | 77 db |

**Ozone Generation**

- Maximum 0.01 ppm (time weighted average)

**Operating Range - Temp & RH**

Temperature

- 50°F (10°C) to 95°F (35°C)

Relative Humidity

- 15% TO 85% (No condensation)

**Altitude**

- 0-10,000 ft. (3100 m)

**Levelness**

- Maximum level difference - 5 mm or less (front to back)
- Maximum level difference - 10 mm or less (right to left)

## Warm-up Time

- 100V: 8 minutes 45 seconds or less (20°(C) 68°(F), 60%)
- 110V: 8 minutes 45 seconds or less (20°(C) 68°(F), 60%)
- 220V: 8 minutes 30 seconds or less (20°(C) 68°(F), 60%)

## Paper Supply Specifications

**Copy Paper Weight Capability)**

- Tray 1 - 16 lb./64 gsm through 28 lb./105 gsm
- Trays 2, 3 - 16 lb./64 gsm through 32 lb./134 gsm
- Bypass Tray - 16 lb./64 gsm through 60 lb./250 gsm

**Paper Tray Capacity (20 lb./80 gsm)**

- Tray 1 250 sheets
- Trays 2, 3 500 sheets
- Bypass Tray 150 sheets

**Paper Cassette Type**

Paper sizes and orientation loadable in each tray are as follows:

**Table 6 Recognized Paper Sizes**

| NASG | ESG |
|---|---|
| 8×10 LEF | A4 LEF |
| A4 LEF | 215×279 LEF |
| 8.5×11 LEF | A3 SEF |
| A3 SEF | 215×279 SEF |
| 8.5×11 SEF | B4 ISO SEF |
| 9×12 SEF | 215×315 SEF |
| 8.5×13 SEF | 215×330 SEF |
| 8.5×14 SEF | 215×356 SEF |
| A4 SEF | A4 SEF |
| 11×17 SEF | 279×432 SEF |

**Table 7 Recommended Paper**

| Mode | NASG Market | ESG Market |
|---|---|---|
| For B/W | 4024DP (20#) | 80 gsm Premier 3R91720, 3R91721 |
| For Color | Color Xpressions 93 (24# bond) 3R5464, 3R5465 | Colortech Plus (90 gsm) 3R94641 (A4), 3R94642 (A3) |

## Printer Speed

There are three speed modes that the print engine considers for fusing speed in printing on different paper types. The speed mode is determined by the controller according to print mode and paper type instructions from the ESS.

1. Standard Mode: Prints at the maximum speed of the machine.
2. Medium Speed Mode: Prints at medium speed to ensure the correct fusing on heavy weight papers (greater than 28 lb. or 105 gsm) and black and white transparencies. This mode is also used to enhance the glossy touch of plain paper.
3. Low Speed Mode: Prints at low speed when printing color on transparencies. This mode is also used to enhance the glossy touch of heavy weight paper.

The following table shows the prints per minute generated with the associated paper types and sizes.

**Table 8 Prints Per Minute**

| Sheet Type | Size | Black & White | Color |
|---|---|---|---|
| Plain paper | 8.5 x 11 inch (A4)<br>8.5 x 14 inch (B4) | 26 ppm | 6 ppm |
| Plain paper | 11 x 17 inch (A3) | 13.8 ppm | 3 ppm |
| Transparency or thick paper | 8.5 x 11 inch (A4)<br>8.5 x 14 inch (B4) | 4.8 ppm | 1.3 ppm |

## First Print Out Time (FPOT)

With the machine in **Ready** mode, the time from the print designation from the driver on the PC until the trail edge of the first sheet exits the IOT is shown as follows:

**Table 9 First Print Out Time (FPOT)**

| Output Tray | Print Mode | FPOT |
|---|---|---|
| Face Up | B/W prints | Approximately 10.9 seconds |
| Face Up | Color prints | Approximately 25.9 seconds |
| Face Down | B/W prints | Approximately 13.9 seconds |
| Face Down | Color prints | Approximately 28.9 seconds |

## Image Loss

Following are the image loss specifications.

**Table 10 Image Loss Specifications**

| Copy Portion | Specification |
|---|---|
| Top Edge | 4.0 mm or less |
| Right Edge | 4.0 mm or less |
| Left Edge | 4.0 mm or less |
| Bottom Edge | 4.0 mm or less |

# ADF Specifications

## ADF Physical Characteristics

**Table 1 ADF Dimensions and Weights**

| Dimension | US | Metric |
|---|---|---|
| Width | 24" | 640 mm |
| Depth | 20.5" | 535 mm |
| Height | 9" | 130 mm |
| Weight: ADF only | 31 lb. | 14 kg |

## ADF Electrical Specifications

**Frequency**

- 50/60 Hz ±2%

**Input Voltage**

- +5 VDC and +24 VDC supplied by IOT.

**Power Consumption**

- 120 Watts

## ADF System Capability

**Document Size**

- Maximum 11 x 17 (A3)
- Minimum 5.5 x 8.5 (A5)
- The ADF recognizes standard document sizes as shown Table 2 and Table 3.

**Table 2 ADF Size Sensing - (NASG)**

| Document Size (+/- 4 mm) | Sensed Size |
|---|---|
| 11×17 | 11×17 (280×432) |
| 11×14.9 SEF | 11×17 (280×432) |
| 8.5×14 SEF | 8.5×14 (216×356) |
| 8.5×13 SEF | 8.5×14 (216×356) |
| 8.5×12.4 SEF | -- |
| 8.5×11 SEF | 8.5×11 (216×280) |
| 8.5×11 LEF | 11×8.5 (280×216) |
| 8×10 SEF | 8×11 (216×280) |
| 8×10 LEF | 11×8.5 (280×216) |
| 8.5×5.5 SEF | 5.5×8.5 (140×216) |
| 8.5×5.5 LEF | 8.5×5.5 (216×140) |
| A4 SEF | A4 (210×297) |
| A4 LEF | A4 (297×210) |

**Table 3 ADF Size Sensing - (ESG)**

| Document Size (+/- 4 mm) | Sensed Size |
|---|---|
| 11×14.9 SEF | 11×17 (280×432) |
| 8.5×14 SEF | 8.5×14 (216×356) |
| 8.5×13 SEF | 8.5×14 (216×356) |
| 8.5×12.4 SEF | -- |
| A3 | A3 (297×420) |
| B4 SEF | B4 (257×364) |
| A4 SEF | A4 (210×297) |
| A4 LEF | A4 (297×210) |
| B5 SEF | B5 (182×257) |
| B5 LEF | B5 (257×182) |
| A5 SEF | A5 (148×210) |
| A5 LEF | A5 (210×148) |

**Document Weight**

- Document Tray Capacity 50 documents 38 - 100 gsm
  40 documents 101 - 138 gsm
  (Duplex: 50 gsm - 110 gsm)

**Size Mixed Mode**

- In this mode sizes from 5.5×8.5 (A5) to 11×17 (A3) can be mixed.

**Registration**

- Lead edge ±2.5 mm
- Side edge ±3 mm
- Skew ±2.5 mm

# IIT (Scanner) Specifications

Following are the Scanner specifications.

## Magnification

### R/E Factors

Magnification is variable in 1% increments from 25% to 400%. Six preset R/E factors are also available. the following table shows the preset R/E factors available:

**Table 1 R/E Presets**

| NASG | ESG |
|---|---|
| 64% | 70% |
| 78% | 81% |
| 100% | 86% |
| 129% | 100% |
| 154% | 115% |
| 200% | 141% |

The following table indicates the R/E factors to use when enlarging or reducing from a specific size document to a specific size copy.

**Table 2 Common R/E Factors**

| R/E value | Original size→Copy Size |
|---|---|
| 35 | A3→A6 |
| 50 | A3→A5 |
| 64 | 11 x 17→8.5 x 11 |
| 70 | A3→A4, B4→B5 |
| 78 | 8.5 x 14→8.5 x 11 |
| 81 | B4→A4, B5→A5 |
| 86 | A4→B5, A3→B4 |
| 97 | A4→8.5 x 11 |
| 115 | B5→A4, B4→A3 |
| 122 | A4→B4, A5→B5 |
| 127 | 8.5 x 13→A3 |
| 129 | 8.5 x 11→11 x 17 |
| 141 | A4→A3, B5→B4 |
| 154 | 5.5 x 8.5→8.5 x 14 |
| 180 | 8.5 x 13→A2 |
| 200 | A5→A3 |
| 220 | 5.5 x 8.5→11 x 17 |
| 282 | A6→A3 |

### Magnification Accuracy

The magnification specifications and associated image distortion for Copy mode are shown in the following table.

**Table 3 Scanner Magnification Specification**

| Magnification | Specification |
|---|---|
| 25 - 49.9% | +/- 1.0% |
| 50 - 99.9% | +/- 1.0% |
| 100% | +/- 1.0% |
| 100.1 - 200% | +/- 1.5% |
| 200.1 - 400% | +/- 2.2% |

### Platen Mode Size Detection

The IIT recognizes the following standard document sizes in Platen mode.

**Table 4 Platen Mode Document Sizes**

| Document orientation | Document size (mm) | NASG | ESG |
|---|---|---|---|
| Postcard SEF | 100 x 148 | - | - |
| (Post Card) | (101 x 152) | x | ALT [2] |
| A6 SEF | 105 x 148 | ALT [3] | x |
| B6 SEF | 128 x 182 | x | x |
| B6 LEF | 182 x 128 | - | - |
| A5 SEF | 148 x 210 | x | x |
| A5 LEF | 210 x 148 | x | x |
| 5.5 x 8.5 SEF | 140 x 215.9 | x | x |
| 5.5 x 8.5 LEF | 215.9 x 140 | x | x |
| B5 SEF | 215.9 x 279.4 | x | x |
| B5 LEF | 279.4 x 215.9 | x | x |
| 8.5 x 13 SEF | 215.9 x 330.2 | - | x |
| 8.5 x 14 SEF | 215.9 x 355.6 | x | - |
| B4 SEF | 257 x 364 | x | x |
| 8th Opening SEF | 267 x 388 | x | x |
| A3 SEF | 297 x 420 | x | x |
| 11 x 17 SEF | 297.4 x 431.8 | x | x |

***NOTE:***

*[1] Mix Mode only*

*[2] Default is A6S, Postcard S is selectable.*

*[3] Default is Postcard S; A6 S is selectable.*

## Scanner Alignment

Following are the scanner alignment specifications.

**Table 5 Reg/Skew Specifications**

| Item | Application | Specification |
|---|---|---|
| Registration | Lead Edge | +/- 0.5 mm |
| Registration | Side Edge | +/- 0.5 mm |
| Skew | Lead Edge | +/- 0.7 mm / 200 |
| Skew | Side Edge | +/- 1.4 mm / 390 |
| Linearity (fast scan) | n/a | +/- 1.0 mm / 200 |
| Linearity (slow scan) | n/a | +/- 0.4 mm |

## First Copy Output Time (FCOT)

Parameters - AE Off, ACS Off, A4 SEF, Tray 1

- Black/White: 11.5 sec. or less
- Full color: 25.6 sec. or less

# Sorter Specifications

The Sorter is an optional accessory which connects to the left side of the copier/printer and receives finished copies from the printer.

## Sorter Electrical Requirements

The sorter receives +24 VDC from the IOT. The +24 VDC is interlocked and will become interrupted when the Sorter Top Cover is opened, or when the machine switches to the Power Saver (Sleep) mode.

## Sorter Capacity and Output

The Sorter has 10 Bins and a Stacker Tray. During copy only jobs, the Sorter can sort by set or stack by page; or high capacity stack mode can be selected. Transparencies can be run to the Side Output Tray (default), or run to the Stacker Tray.

In Print mode, the only available tray for all outputs is the Side Output Tray (Bin 1).

Table 1 indicates the capacities and available modes of operation for the various output devices in the Sorter. Table 2 lists the sizes and weight range for the Stacker Tray and Side Output Tray. Table 3 provides this information for Bins 2 - 10

**Table 1**

| Device | Modes | Capacity |
|---|---|---|
| Stacker Tray | Copy mode only - Stack by set, transparencies | 500 sheets |
| Side Output Tray (Bin 1) | Print mode, Transparencies | 100 sheets |
| Bin 2 - Bin 10 | Copy mode only - sort by set | 30 sheets |

**Table 2 Paper Handling Capability - Stacker Tray/Side Output Tray**

| Size | Dimensions | Weight |
|---|---|---|
| A3 | 11.7 x 16.5 inch (297 x 420 mm) SEF | 60-200 gsm |
| Ledger | 11 x 17 inch (279.4 x 431.8 mm) SEF | 60-200 gsm |
| B4 | 10.1 x 14.3 inch (257.0 x 364.0 mm) SEF | 60-200 gsm |
| LGL | 8.5 x 14 inch (215.9 x 355.6 mm) SEF | 60-200 gsm |
| A4 | 11.7 x 8.3 inch (297 x 210 mm) LEF | 60-200 gsm |
| A4-R | 8.3 x 11.7 inch (210 x 297 mm) SEF | 60-200 gsm |
| LTR | 11 x 8.5 inch (279.4 x 215.9 mm) LEF | 60-200 gsm |
| LTR-R | 8.5 x 11 inch (215.9 x 279.4 mm) SEF | 60-200 gsm |
| B5 LEF | 6.9 x 9.8 inch (176 x 250 mm) LEF | 64 - 98 gsm |
| A5 LEF | 5.8 x 8.2 inch (148 x 210 mm) LEF | 64 - 98 gsm |
| A5R | 8.2 x 5.8 inch (210 x 148 mm) SEF | n/a |

**Table 3 Bins 2-10 Capacities is 30 Sheets in All Modes**

| Size | Dimensions | Weight |
|---|---|---|
| A3 | 11.7 x 16.5 inch (297 x 420 mm) SEF | 60-128 gsm |
| Ledger | 11 x 17 inch (279.4 x 431.8 mm) SEF | 60-128 gsm |
| B4 | 10.1 x 14.3 inch (257.0 x 364.0 mm) SEF | 60-128 gsm |
| LGL | 8.5 x 14 inch (215.9 x 355.6 mm) SEF | 60-128 gsm |
| A4 | 11.7 8.3 inch (297 x 210 mm) LEF | 60-128 gsm |
| A4-R | 8.3 x 11.7 inch (210 x 297 mm) SEF | 60-128 gsm |
| LTR | 11 x 8.5 inch (279.4 x 215.9 mm) LEF | 60-128 gsm |
| LTR-R | 8.5 x 11 inch (215.9 x 279.4 mm) SEF | 60-128 gsm |
| B5 LEF | 6.9 x 9.8 inch (176 x 250 mm) LEF | 64 - 98 gsm |
| A5 LEF | 5.8 x 8.2 inch (148 x 210 mm) LEF | 64 - 98 gsm |
| A5R | 8.2 x 5.8 inch (210 x 148 mm) SEF | n/a |

## Common Tools

The following table lists the common tools required for servicing the DC 2006 and Phaser 790.

**Table 1 Common Tools**

| Description | Part Number |
|---|---|
| Digital Multimeter (DMM) | 600T2020 |
| DMM Lead Kit | 600T2030 |
| ESD Kit | 600T42001 |
| Diagonal Pliers | 600T40903 |
| Mini-Flashlight | 600T1824 |
| Ergonomic Tool | 600T2123 |
| 2mm Hex Wrench | 600T41102 |
| Needle-Nose Pliers | 600T40901 |
| Long, assorted shim stock | 600T41511 |
| Brush | 600T41901 |
| 150mm Ruler | 600T41503 |
| | |
| | |
| | |
| | |

## Product Tools and Test Patterns

The following table lists the product specific tools and test patterns required for use in servicing the DC 2006 and Phaser 790.

**Table 1**

| Description | Part Number |
|---|---|
| Color Test Pattern | 82E13030 |
| Copier Set-up Test Pattern | 82E8220 |
| Serial Cable | 600T2058 |
| Parallel Cable | 600T2065 |
| Laptop AC Adapter Power Cord | 600T2018 |
| | |
| | |
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| | |

## Cleaning Materials

**Table 1 Cleaning Materials**

| Description | Part Number | |
|---|---|---|
| Cleaning fluid | 43P48 | NASG |
| (8oz., Formula A) | 8R90034 | ESG |
| Film remover | 43P45 | NASG |
| (8 oz.) | 8R90176 | ESG |
| Lens/mirror cleaner | 43P81 | NASG |
| | 8R90178 | ESG |
| Lint-free (white) | 19P3025 | NASG |
| cleaning cloth | 19P3025 | ESG |
| Lint-free Optics | 499T90417 | NASG |
| Cleaning Cloth | 499T90417 | ESG |
| Cleaning towels | 35P3191 | NASG |
| | 600S4372 | ESG |
| Drop cloth | 35P1737 | NASG |
| | 35P1737 | ESG |
| Cotton Swab | 35P2162 | NASG |
| | 35P2162 | ESG |

## Machine Consumables

The following table lists the consumables required for the DC 2006.

**Table 1 Consumables List for the DC 2006**

| Part Number | Description | Location |
|---|---|---|
| 6R994 | Black Dry Ink Cartridge | NASG |
| 6R90307 | Black Dry Ink Cartridge | ESG |
| 6R995 | Cyan Dry Ink Cartridge | NASG |
| 6R90308 | Cyan Dry Ink Cartridge | ESG |
| 6R996 | Magenta Dry Ink Cartridge | NASG |
| 6R90309 | Magenta Dry Ink Cartridge | ESG |
| 6R997 | Yellow Dry Ink Cartridge | NASG |
| 6R90310 | Yellow Dry Ink Cartridge | ESG |
| 13R574 | Copy/Print Cartridge | NASG |
| 13R90140 | Copy/Print Cartridge | ESG |
| 008R12568 | Waste Container | NASG |
| 008R12571 | Waste Container | ESG |

The following table lists the consumables required for the Phaser 790.

**Table 2 Consumables List for the Phaser 790**

| Part Number | Description | Location |
|---|---|---|
| 6R1009 | Black Dry Ink Cartridge | NASG |
| 6R1009 | Black Dry Ink Cartridge | ESG |
| 6R1010 | Cyan Dry Ink Cartridge | NASG |
| 6R1010 | Cyan Dry Ink Cartridge | ESG |
| 6R1011 | Magenta Dry Ink Cartridge | NASG |
| 6R1011 | Magenta Dry Ink Cartridge | ESG |
| 6R1012 | Yellow Dry Ink Cartridge | NASG |
| 6R1012 | Yellow Dry Ink Cartridge | ESG |
| 13R575 | Copy/Print Cartridge | NASG |
| 13R575 | Copy/Print Cartridge | ESG |
| 08R12571 | Waste Container | NASG |
| 08R12571 | Waste Container | ESG |

# Change Tag Introduction

Important modifications to the machine are identified by a tag number which is recorded on a tag matrix label attached to the inside of Front Cover, or inside the Front Door. This section describes all of the tags associated with the machine, as well as multinational applicability, classification codes, and permanent or temporary modification information.

## Classification Codes

A tag number may be required to identify differences between parts that cannot be interchanged, or differences in diagnostic, repair, installation, or adjustment procedures.

A tag number may also be required to identify the presence of optional hardware, special non-volatile memory programming, or whether mandatory modifications have been installed. Each tag number is given a classification code to identify the type of change that the tag has made. The classification codes and their descriptions are listed in the table below.

**Table 1**

| Classification Code | Description |
|---|---|
| M | Mandatory Tag |
| N | Tag not installed in the field |
| O | Optional Tag |
| R | Repair Tag |

## Processor (P) Tags

***NOTE:*** *At the time of publication, no Change Tags had been issued to this subsystem.*

## Scanner Tags

***NOTE:*** *At the time of publication, no Change Tags had been issued to this subsystem.*

## Sorter Tags

***NOTE:*** *At the time of publication, no Change Tags had been issued to this subsystem.*

## ADF Tags

***NOTE:*** *At the time of publication, no Change Tags had been issued to this subsystem.*

# 7 Wiring Data


**Plug/Jack Location**

Plug/Jack Locations ..... 7-3

**Wirenets**

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+5 VDC Wirenet (2 of 3) ..... 7-27
+5 VDC Wirenet (3 of 3) ..... 7-28
+24 VDC Interlocked Wirenet (1 of 3) ..... 7-29
+24 VDC Interlocked Wirenet (2 of 3) ..... 7-30
+24 VDC Interlocked Wirenet (3 of 3) ..... 7-31
DC Com Wirenet (1 of 5) ..... 7-32
DC Com Wirenet (2 of 5) ..... 7-33
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BSDs ..... 7-39
BSD 1.1 ..... 7-40
BSD 1.2 ..... 7-41
BSD 1.3 ..... 7-42
BSD 1.4 ..... 7-43
BSD 1.5 ..... 7-44
BSD 1.6 ..... 7-45
BSD 2.1 ..... 7-46
BSD 2.2 ..... 7-47
BSD 3.1 ..... 7-48
BSD 3.2 ..... 7-49
BSD 3.3 ..... 7-50
BSD 3.4 ..... 7-51
BSD 3.5 ..... 7-52
BSD 3.6 ..... 7-53
BSD 3.7 ..... 7-54
BSD 4.1 ..... 7-55
BSD 4.2 ..... 7-56
BSD 5.1 ..... 7-57
BSD 5.2 ..... 7-58
BSD 5.3 ..... 7-59
BSD 5.3 ..... 7-60
BSD 5.4 ..... 7-61
BSD 5.5 ..... 7-62
BSD 6.1 ..... 7-63
BSD 6.2 and 6.3 ..... 7-64
BSD 6.4 ..... 7-65
BSD 6.5 ..... 7-66
BSD 6.6 ..... 7-67
BSD 7.1 ..... 7-68
BSD 7.1 ..... 7-69
BSD 7.2 ..... 7-70
BSD 7.2 ..... 7-71
BSD 7.3 ..... 7-72
BSD 7.3 ..... 7-73
BSD 7.4 ..... 7-74
BSD 7.4 ..... 7-75
BSD 8.1 ..... 7-76
BSD 8.2 ..... 7-77
BSD 8.3 ..... 7-78
BSD 8.4 ..... 7-79
BSD 8.5 ..... 7-80
BSD 8.6 ..... 7-81
BSD 8.7 ..... 7-82
BSD 9.1 ..... 7-83
BSD 9.2 ..... 7-84
BSD 9.3 ..... 7-85
BSD 9.3 ..... 7-86
BSD 9.4 ..... 7-87
BSD 9.4 ..... 7-88
BSD 9.5 ..... 7-89
BSD 9.6 ..... 7-90
BSD 9.7 ..... 7-91
BSD 9.8 ..... 7-92
BSD 9.8 ..... 7-93
BSD 9.9 ..... 7-94
BSD 10.1 ..... 7-95
BSD 10.2 ..... 7-96
BSD 10.3 ..... 7-97
BSD 10.4 ..... 7-98
BSD 10.4 ..... 7-99
BSD 10.5 ..... 7-100
BSD 10.5 ..... 7-101
BSD 10.6 ..... 7-102
BSD 10.7 ..... 7-103
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# Plug/Jack Locations

## How to use the Plug/Jack Location List

The Plug/Jack Location List (Table 1) is provided to locate plugs, jacks, or other terminating devices. Locate the desired termination device in the first column (Plug/Jack Number) of the list. Refer to the third column (Figure Number) to determine the figure number of the electrical termination device. The Location column supplies other helpful information, such as source and/or destination of the cable.

**Table 1 Plug/Jack Location List**

| Plug/Jack Number | Location | Figure Number |
|---|---|---|
| 1 | Sorter Controller PWB | Figure 18 |
| 2 | Sorter Controller PWB | Figure 18 |
| 3 | Sorter Controller PWB | Figure 18 |
| 4 | Sorter Controller PWB | Figure 18 |
| 5 | Connects Control Panel and ICM Main PWB (IIT) | Figure 17 |
| 5 | Full Sensor (Sorter) | Figure 18 |
| 5 | Sorter Controller PWB | Figure 18 |
| 6 | Sorter Controller PWB | Figure 18 |
| 7 | Sorter Controller PWB | Figure 18 |
| 8 | ESS PWB | Figure 3 |
| 8 | Sorter Controller PWB | Figure 18 |
| 9 | Sorter Controller PWB | Figure 18 |
| 10 | MCU PWB | Figure 2 |
| 10 | Sorter Controller PWB | Figure 18 |
| 10 | Sorter Intermediate Connector | Figure 18 |
| 11 | ESS PWB | Figure 3 |
| 12 | ESS PWB | Figure 3 |
| 12 | MCU PWB | Figure 2 |
| 14 | ESS PWB | Figure 3 |
| 14 | MCU PWB | Figure 2 |
| 15 | ESS PWB | Figure 3 |
| 15 | MCU PWB | Figure 2 |
| 16 | ESS PWB | Figure 3 |
| 16 | MCU PWB | Figure 2 |
| 17 | ESS PWB | Figure 3 |
| 17 | MCU PWB | Figure 2 |
| 18 | ESS PWB | Figure 3 |
| 18 | MCU PWB | Figure 2 |
| 19 | MCU PWB | Figure 2 |
| 20 | ESS PWB | Figure 3 |
| 20 | MCU PWB | Figure 2 |
| 21 | ESS PWB | Figure 3 |

**Table 1 Plug/Jack Location List**

| Plug/Jack Number | Location | Figure Number |
|---|---|---|
| 21 | MCU PWB | Figure 2 |
| 22 | MCU PWB | Figure 2 |
| 23 | MCU PWB | Figure 2 |
| 24 | ESS PWB | Figure 3 |
| 25 | ESS PWB | Figure 3 |
| 28 | ESS PWB | Figure 3 |
| 32 | Low Voltage Power Supply | Figure 6 |
| 33 | ESS PWB | Figure 3 |
| 33 | Low Voltage Power Supply | Figure 6 |
| 34 | ESS PWB | Figure 3 |
| 34 | Low Voltage Power Supply | Figure 6 |
| 35 | Low Voltage Power Supply | Figure 6 |
| 41 | High Voltage Power Supply | Figure 6 |
| 42 | High Voltage Power Supply | Figure 6 |
| 47 | Fuser Motor | Figure 6 |
| 48 | Drive Motor PWB | Figure 6 |
| 49 | Drive Motor PWB | Figure 6 |
| 50 | Drive Motor PWB | Figure 6 |
| 51 | Process Drive Assembly | Figure 6 |
| 52 | Process Drive Assembly | Figure 6 |
| 55 | Dispense Clutch Assembly | Figure 6 |
| 56 | Developer Clutch Assembly | Figure 7 |
| 57 | TRO Sensor | Figure 5 |
| 58 | Rotary Sensor | Figure 7 |
| 62 | Cleaner Cam Solenoid | Figure 8 |
| 63 | Intermediate Connector | Figure 7 |
| 64 | BTR 2 Cam Clutch | Figure 7 |
| 66 | Communication PWB | Figure 2 |
| 70 | Intermediate Connector | Figure 7 |
| J71 | Intermediate Connector | Figure 8 |
| P71 | Intermediate Connector | Figure 7 |
| 72 | Intermediate Connector | Figure 8 |
| 74 | Exchange Solenoid | Figure 8 |
| 75 | Lower Inverter Solenoid | Figure 8, Figure 9 |
| 76 | Intermediate Connector | Figure 8 |
| 78 | Intermediate Connector | Figure 8 |
| 79 | Fuser Harness Intermediate Connector | Figure 8 |
| 80 | Fuser Chute Fan | Figure 8 |
| 81 | ADC Sensor Assembly | Figure 1 |
| 82 | Developer Fan | Figure 6 |

**Table 1 Plug/Jack Location List**

| Plug/Jack Number | Location | Figure Number |
|---|---|---|
| 83 | Toner Box Sensor | Figure 1 |
| 84 | Intermediate Connector | Figure 1 |
| 85 | CRUM Assembly | Figure 1 |
| 86 | Erase Lamp Assembly | Figure 1 |
| 87 | Cartridge Sensor | Figure 5 |
| 88 | Waste Toner Sensor | Figure 1 |
| 91 | IIT LVPS | Figure 15 |
| J91 | Fuser Intermediate Connector | Figure 4 |
| P91 | Fuser Intermediate Connector | Figure 2 |
| 93 | Registration Sensor | Figure 4 |
| 94 | Registration Clutch Assembly | Figure 4 |
| 95 | Preregistration Clutch Assembly | Figure 4 |
| 97 | Intermediate Connector | Figure 2 |
| 98 | OHP Sensor | Figure 4 |
| 100 | BTR 2 Cam Sensor | Figure 2 |
| 100 | Connects ICM Main PWB and IIT LVPS | Figure 17 |
| 101 | Intermediate Connector | Figure 2, Figure 7 |
| 102 | Size Switch Assembly (Tray 1) | Figure 7 |
| 103 | Feed Solenoid (Tray 1) | Figure 6 |
| 103 | Feed Solenoid (Tray 1) | Figure 2 |
| 104 | Turn Clutch | Figure 6 |
| 105 | Environment Sensor | Figure 2 |
| 106 | Low Paper Sensor | Figure 2 |
| 107 | Tray No paper Sensor | Figure 2 |
| 109 | Turn Chute Interlock | Figure 2 |
| 110 | IIT Carriage Motor | Figure 17 |
| 111 | Fuser Fan 1 | Figure 8 |
| 112 | Exit Chute Fan | Figure 8 |
| 116 | Intermediate Connector | Figure 1 |
| 117 | Fuser In Sensor | Figure 8 |
| 120 | Connects ICM Main PWB and FLPS PWB | Figure 17 |
| 121 | ROS Assembly | Figure 5 |
| 122 | ROS Assembly | Figure 5 |
| 123 | ROS Assembly | Figure 5 |
| 124 | ROS Assembly | Figure 5 |
| 125 | ROS Assembly | Figure 5 |
| 130 | ICM Main PWB | Figure 17 |
| 132 | Intermediate Connector | Figure 6 |
| 133 | Sorter Intermediate Connector | Figure 18 |
| 134 | Intermediate Connector for Duplex Option | Figure 7, Figure 9 |

**Table 1 Plug/Jack Location List**

| Plug/Jack Number | Location | Figure Number |
|---|---|---|
| 139 | Duplex Control PWB | Figure 9 |
| 140 | IIT | Figure 16 |
| 140 | Duplex Control PWB | Figure 9 |
| 141 | Duplex Control PWB | Figure 9 |
| 142 | Duplex Control PWB | Figure 9 |
| 144 | Duplex Control PWB | Figure 9 |
| 145 | Aligner Sensor | Figure 13 |
| 146 | Aligner Out Sensor | Figure 13 |
| 147 | Inverter Motor | Figure 9 |
| 148 | Duplex Nip Solenoid | Figure 7 |
| 149 | Aligner Drive Clutch | Figure 13 |
| 150 | Forward Clutch | Figure 9 |
| 150 | IIT Front Fan | Figure 17 |
| 150A/B | IIT Front Fan Intermediate Connector | Figure 16 |
| 151 | IIT Rear Fan | Figure 17 |
| 151 | Reverse Clutch | Figure 9 |
| 152 | Enter Clutch | Figure 9 |
| 153 | CAB Interlock | Figure 9 |
| 154 | Intermediate Connector | Figure 13 |
| 155 | Intermediate Connector | Figure 13 |
| 158 | Inverter Sensor | Figure 9 |
| 159 | Intermediate Connector | Figure 13 |
| 160 | Intermediate Connector | Figure 13 |
| 161 | Exit Harness Intermediate Connector | Figure 8 |
| 163 | Full Stack Sensor | Figure 8 |
| 165 | Top Exit Sensor | Figure 8 |
| 166 | Exit Chute Interlock | Figure 8 |
| 167 | Full Stack Sensor | Figure 8 |
| 191 | Right Front Cover Interlock | Figure 1 |
| 192 | Right Front Cover Interlock | Figure 1 |
| 193 | Right Front Cover Interlock | Figure 1 |
| 194 | Right Front Cover Interlock | Figure 1 |
| 195 | Intermediate Connector | Figure 6 |
| 197 | Intermediate Connector | Figure 5 |
| 198 | Left Front Cover Interlock | Figure 5 |
| 199 | Left Front Cover Interlock | Figure 5 |
| 200 | Connects ICM Main PWB and Control Panel PWB (IIT) | Figure 17 |
| 201 | Sorter Receiver Sensor | Figure 18 |
| 201 | Bypass Tray Intermediate Connector | Figure 4 |

**Table 1 Plug/Jack Location List**

| Plug/Jack Number | Location | Figure Number |
|---|---|---|
| 202 | Feed Clutch (Bypass Tray) | Figure 4 |
| 203 | Empty Sensor | Figure 4 |
| 204 | Pitch Sensor | Figure 4 |
| 205 | Intermediate Connector | Figure 4 |
| 206 | Bypass Tray Guide Switch | Figure 4 |
| 207 | Bypass Tray Interlock | Figure 2 |
| 208 | Lift Motor Assembly | Figure 4 |
| 209 | Stack Height Sensor | Figure 4 |
| 210 | Lift Plate Sensor | Figure 4 |
| 210 | SCSI Connector | Figure 17 |
| 211 | Bypass Tray Intermediate Connector | Figure 6 |
| 211 | SCSI Connector | Figure 17 |
| 212 | Feeder PWB | Figure 10 |
| 213 | Feeder PWB | Figure 10 |
| 214 | Feeder PWB | Figure 10 |
| 215 | Feeder PWB | Figure 10 |
| 216 | Feeder PWB | Figure 10 |
| 217 | Feeder PWB | Figure 10 |
| 218 | Feeder PWB | Figure 10 |
| 219 | No Paper Sensor (Tray 2) | Figure 12 |
| J220 | DADF to ICM Main PWB Connector | Figure 14 |
| P220 | ICM Main PWB Connector for DADF | Figure 17 |
| 220 | No Paper Sensor (Tray 3) | Figure 12 |
| 221 | Low Paper Sensor (Tray 2) | Figure 11 |
| 222 | Low Paper Sensor (Tray 3) | Figure 11 |
| 223 | Feedout Sensor (Tray 2) | Figure 12 |
| 224 | Feedout Sensor (Tray 3) | Figure 12 |
| 225 | Nudger Solenoid Assembly (Tray 2) | Figure 11 |
| 226 | Nudger Solenoid Assembly (Tray 3) | Figure 11 |
| 227 | Turn Clutch Assembly (Tray 2) | Figure 10 |
| 228 | Turn Clutch Assembly (Tray 3) | Figure 10 |
| 229 | Takeaway Clutch Assembly (Tray 2) | Figure 10 |
| 230 | Takeaway Clutch Assembly (Tray 3) | Figure 10 |
| 231 | Low Paper Sensor (Tray 2) | Figure 12 |
| 232 | Low Paper Sensor (Tray 3) | Figure 12 |
| 233 | Feeder Drive Assembly (Tray 2) | Figure 11 |
| 234 | Feeder Drive Assembly (Tray 3) | Figure 11 |
| 235 | Size Switch Assembly (Tray 2) | Figure 11 |
| 236 | Size Switch Assembly (Tray 3) | Figure 11 |
| 237 | Feeder Right Cover Interlock 1 | Figure 10 |

**Table 1 Plug/Jack Location List**

| Plug/Jack Number | Location | Figure Number |
|---|---|---|
| 238 | Feeder Right Cover Interlock 2 | Figure 10 |
| 239 | Feeder Motor Assembly | Figure 10 |
| 240 | Feeder Motor Assembly | Figure 10 |
| 241 | Intermediate Connector (Tray 2) | Figure 10 |
| 242 | Intermediate Connector (Tray 3) | Figure 10 |
| 245 | Rotary Motor PWB | Figure 6 |
| 246 | Rotary Motor PWB | Figure 6 |
| 247 | Rotary Motor PWB | Figure 6 |
| 317 | Control Panel | Figure 3 |
| 320 | Connects ICM Main PWB and Extension PWB | Figure 17 |
| 602 | I/F Connector for IOT | Figure 17 |
| 603 | I/F Connector for IOT | Figure 17 |
| 709 | Document Set LED | Figure 14 |
| 711 | Document Set Sensor | Figure 14 |
| 712 | ADF Registration Sensor | Figure 14 |
| 713 | ADF Nudger Home Sensor | Figure 14 |
| 714 | Feeder Cover Interlock | Figure 14 |
| 716 | IIT | Figure 16 |
| 717 | IIT | Figure 16 |
| 718 | ADF Exit Sensor | Figure 14 |
| 718 | IIT | Figure 15 |
| 719 | IIT | Figure 16 |
| 719 | Exit Tray Interlock | Figure 14 |
| 721 | Front Fuser Exit Sensor | Figure 8 |
| 722 | Rear Fuser Exit Sensor | Figure 8 |
| 811 | ADF Harness connection to Scanner | Figure 14 |
| 812 | ADF Drive Motor | Figure 14 |
| 813 | ADF Exit Motor | Figure 14 |
| 814 | ADF Control PWB | Figure 14 |
| 815 | ADF Control PWB | Figure 14 |
| 816 | ADF Control PWB | Figure 14 |
| CN1 | IIT | Figure 16 |
| CN1 | Motor Drive PWB | Figure 6 |
| CN2 | IIT | Figure 16 |
| CN2 | Paper Handling Motor Assembly | Figure 7 |
| E1 | Commoning Connector | Figure 8 |
| F187-1 | BCR Assembly | Figure 5 |
| F187-2 | Developer Contact Plate Assembly | Figure 1 |
| F250 | Connects Pressure Roll Heater and Heat Roll Heater | Figure 8 |

**Table 1 Plug/Jack Location List**

| Plug/Jack Number | Location | Figure Number |
|---|---|---|
| A | HVPS | Figure 6 |
| C | HVPS | Figure 6 |
| D | HVPS | Figure 6 |
| F | HVPS | Figure 6 |
| FS1 | Top Cover Interlock | Figure 6 |
| FS2 | Top Cover Interlock | Figure 6 |
| N1 | IIT LVPS | Figure 15 |
| SN1 | Sorter Path Sensor | Figure 18 |
| T1 | Heat Roll Heater | Figure 8 |
| T2 | Pressure Roll Heater | Figure 8 |
| T3 | IBT Rear Bracket | Figure 5 |
| T4 | IBT Rear Bracket | Figure 5 |

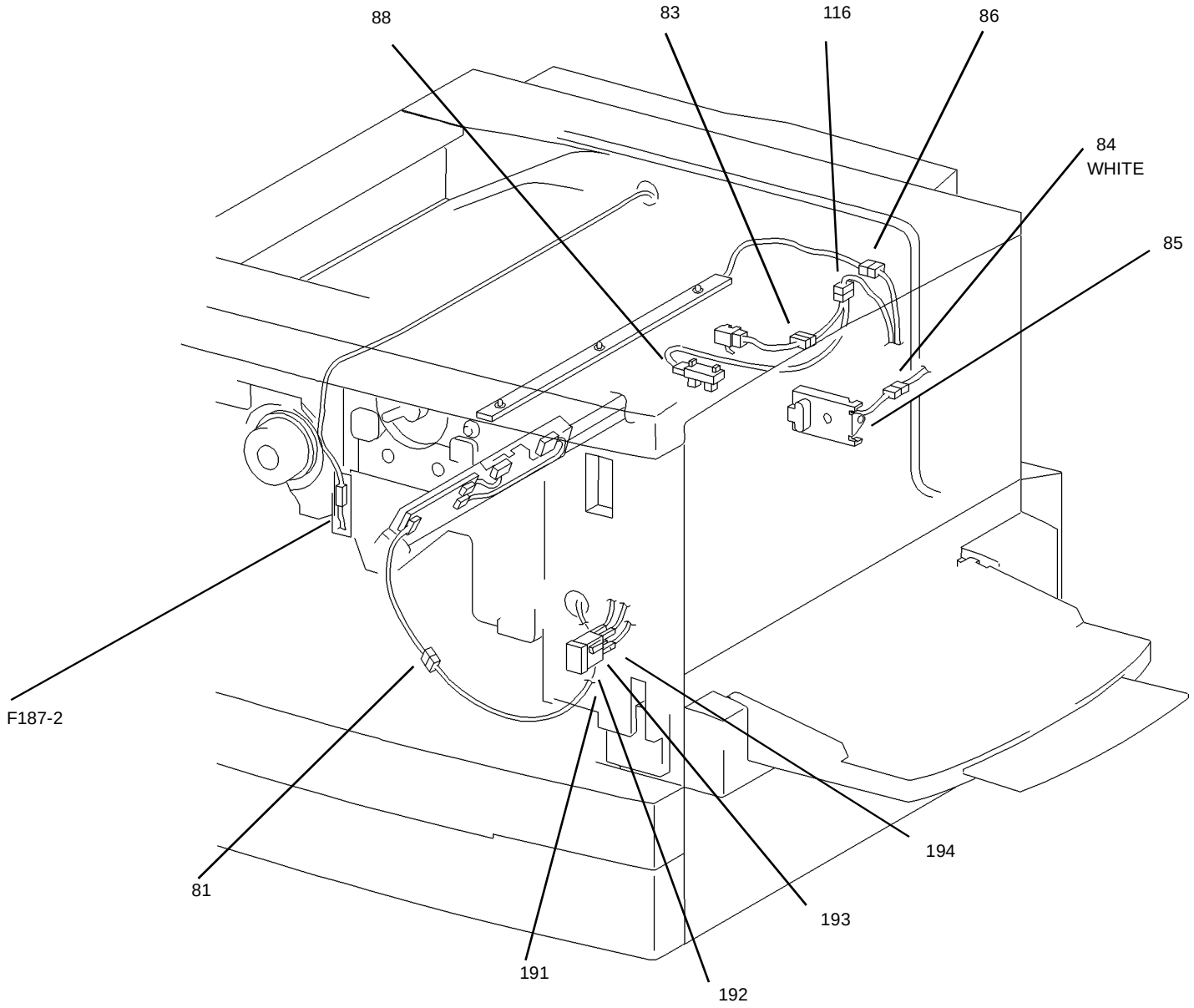



**Figure 1**

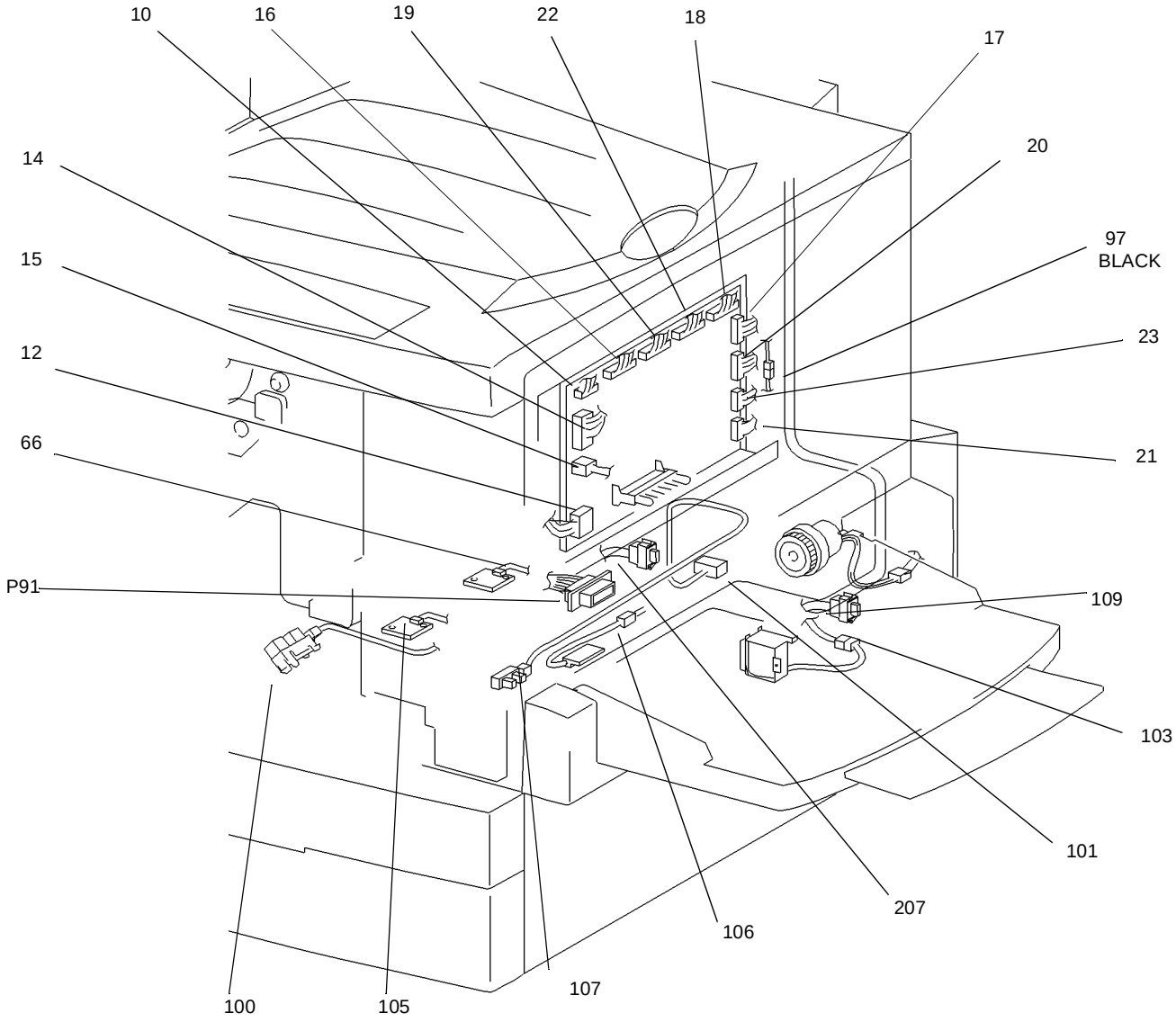

10
16
19
22
18
17
14
20
97
BLACK
15
23
12
21
66
P91
109
103
101
207
106
107
100
105
0735001A-WOL

**Figure 2**

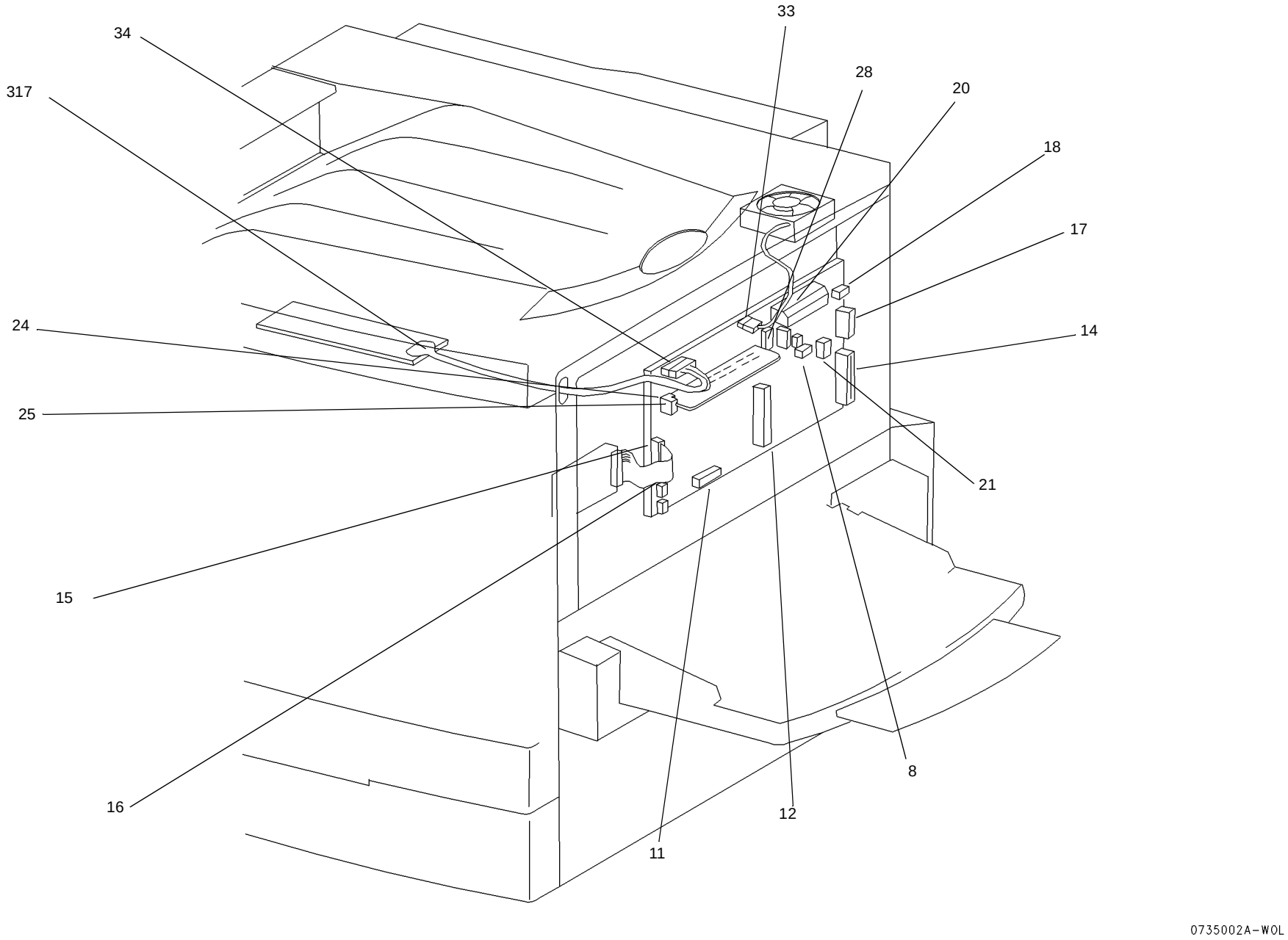



**Figure 3**

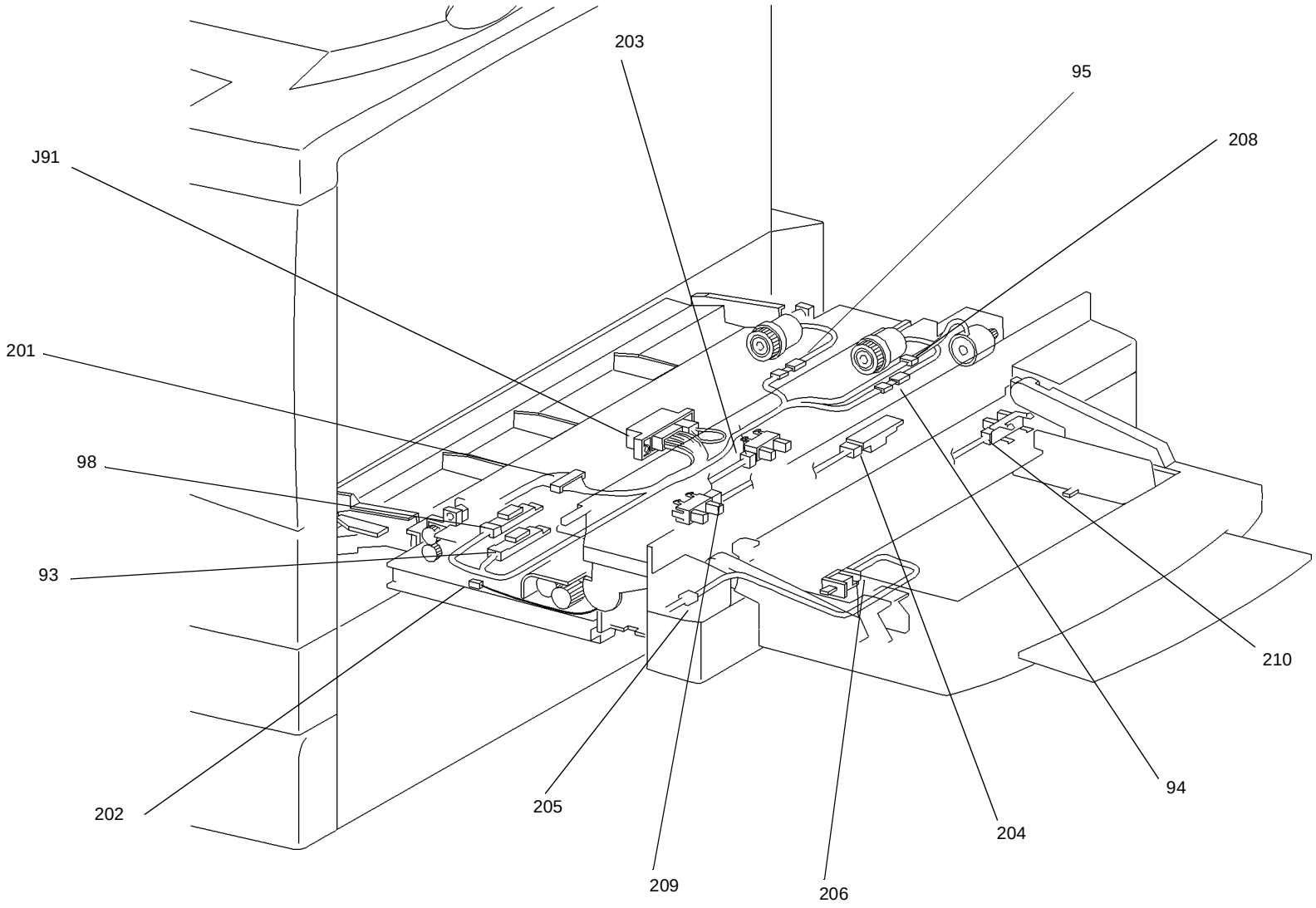



**Figure 4**

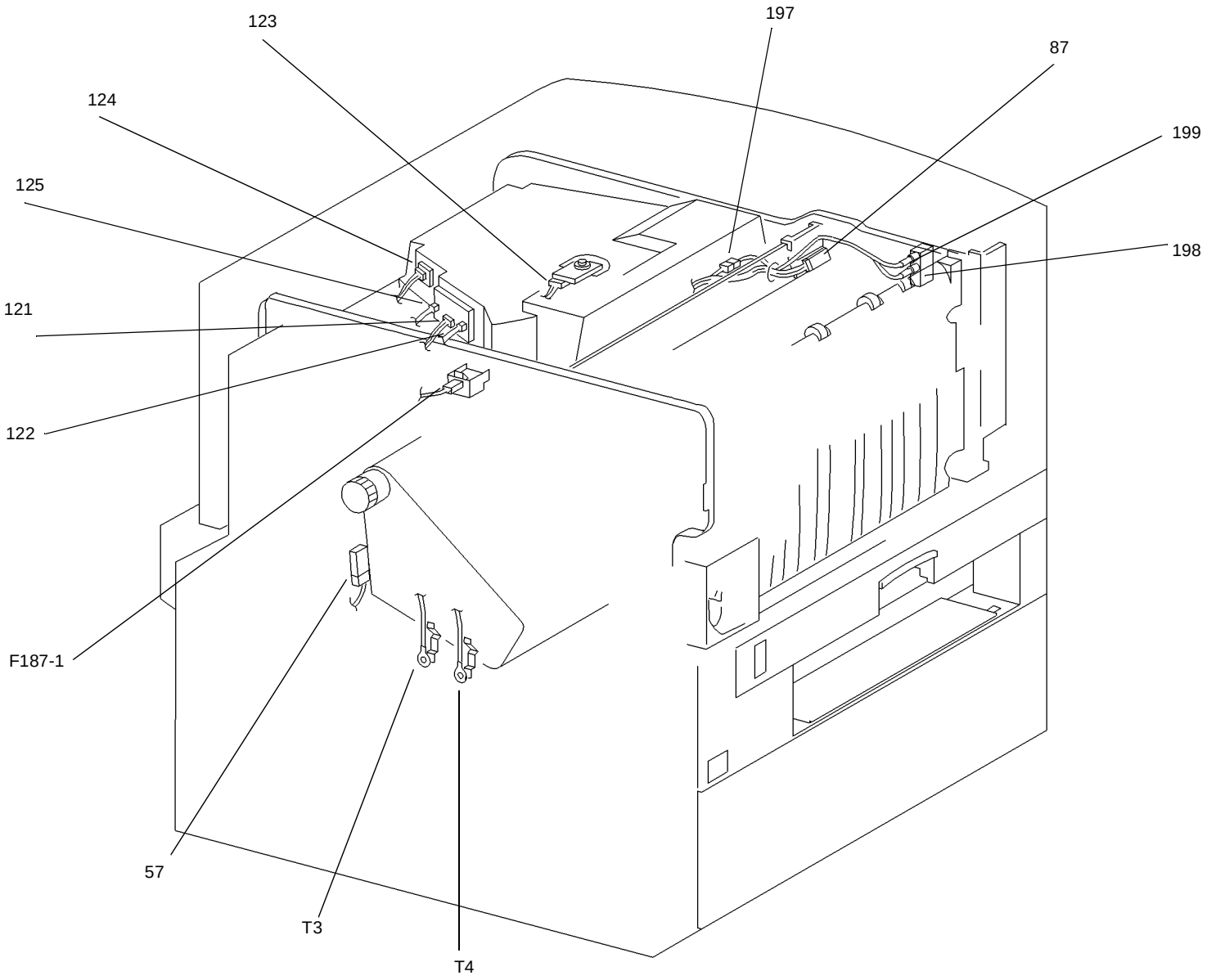



**Figure 5**

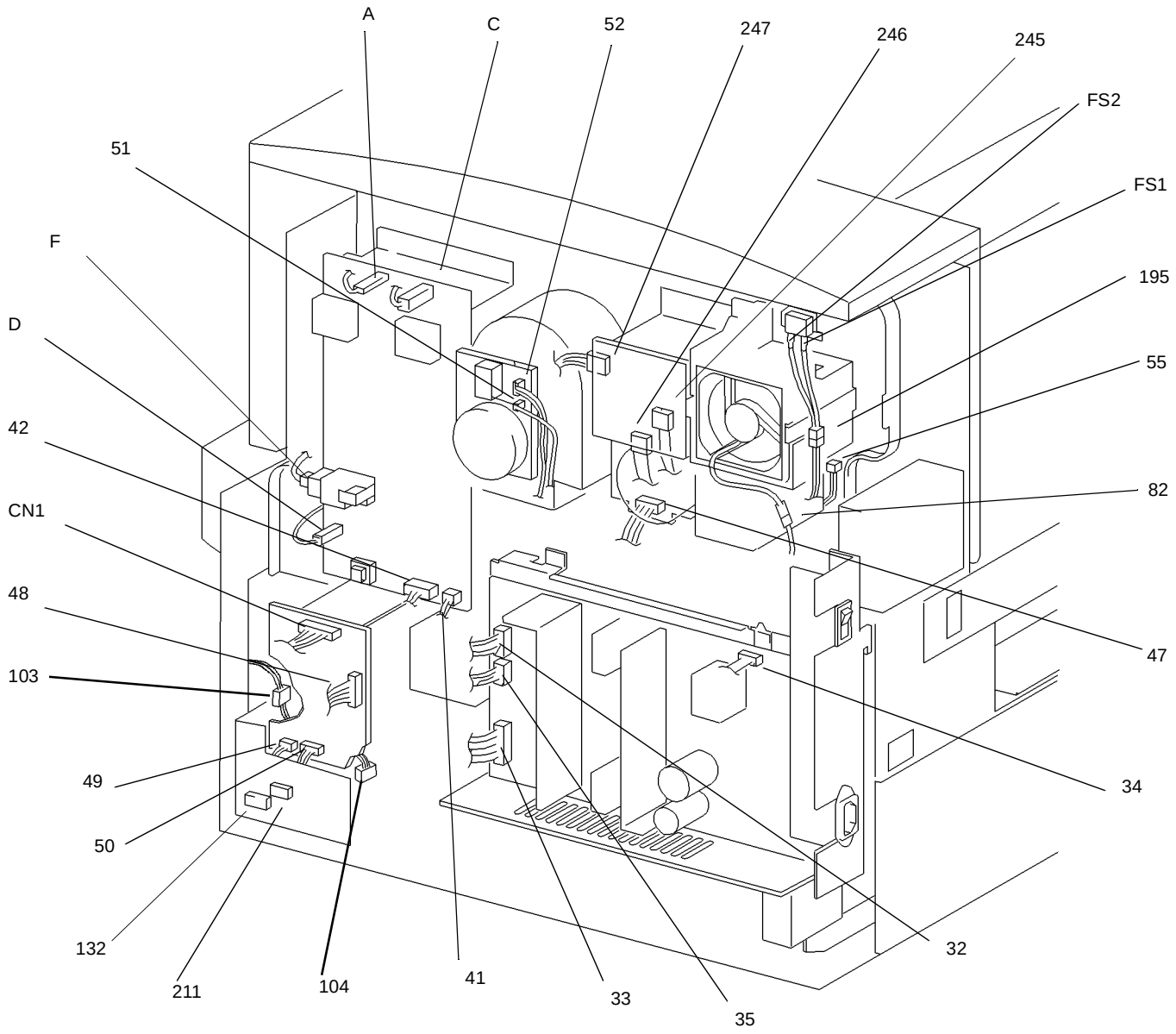

A
C
52
247
246
245
FS2
51
FS1
F
195
D
55
42
82
CN1
48
47
103
49
34
50
132
32
211
104
41
33
35
0735005A-WOL

**Figure 6**

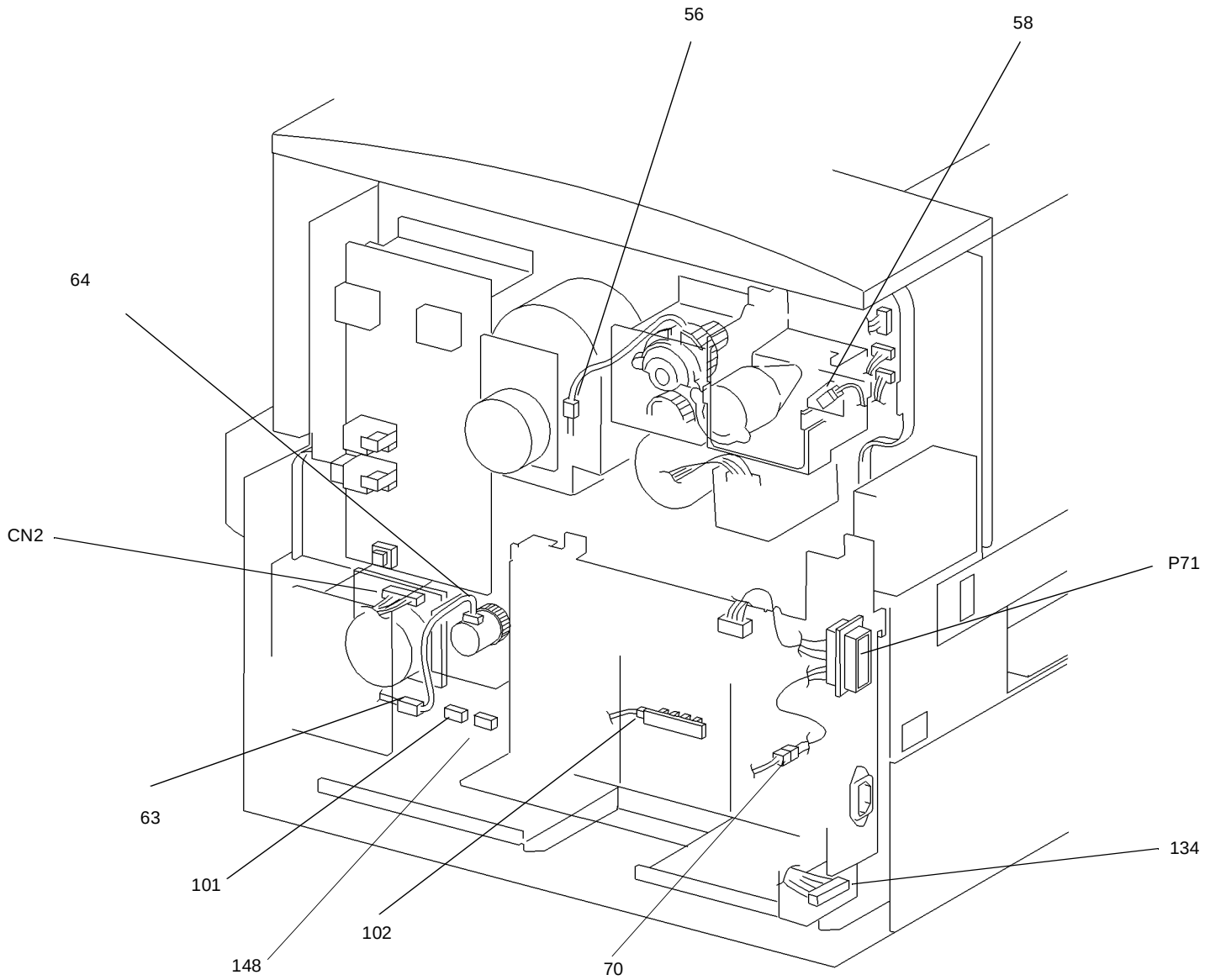



**Figure 7**

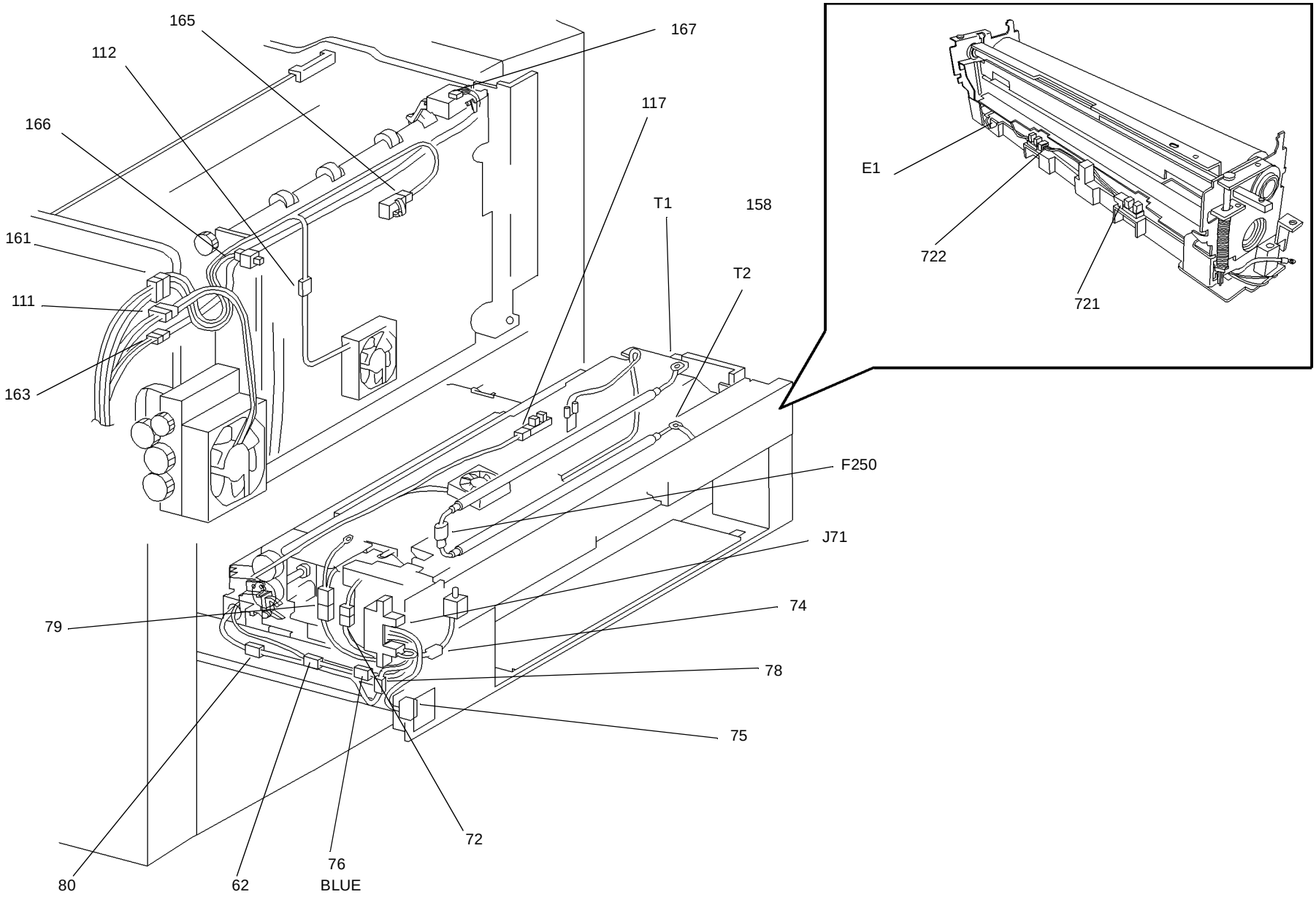

165
167
112
117
166
T1
158
161
T2
111
E1
722
721
163
F250
J71
79
74
78
75
72
76
BLUE
80
62
0735007A-WOL

**Figure 8**

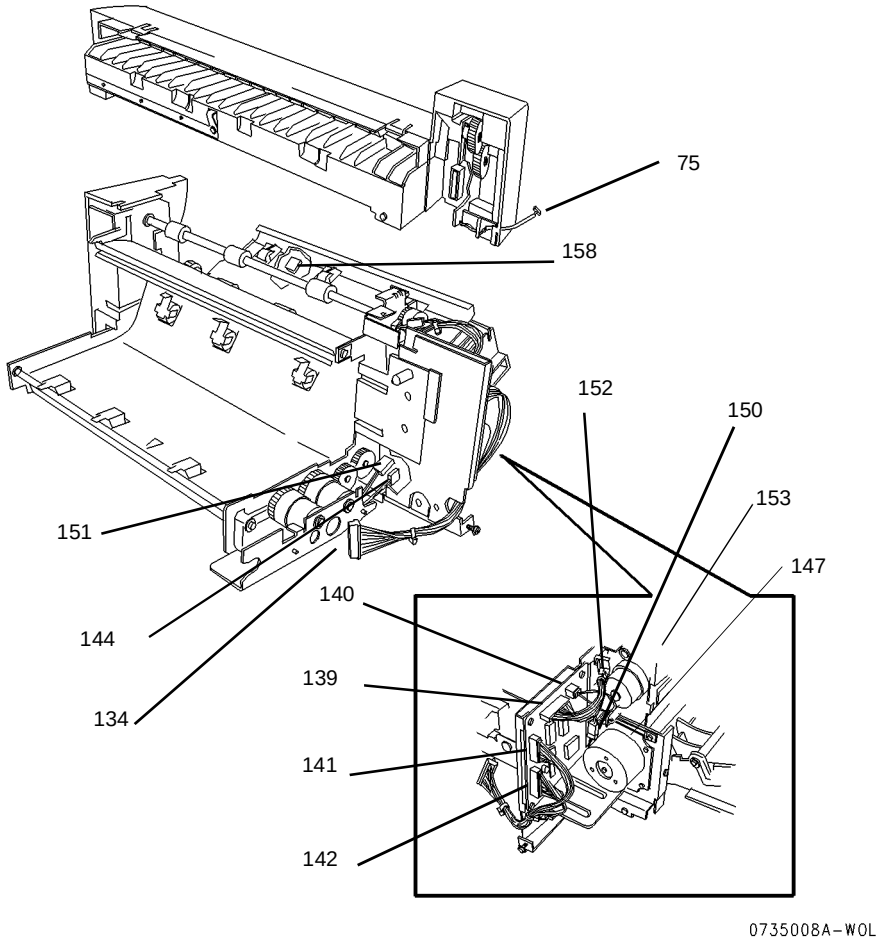



**Figure 9**

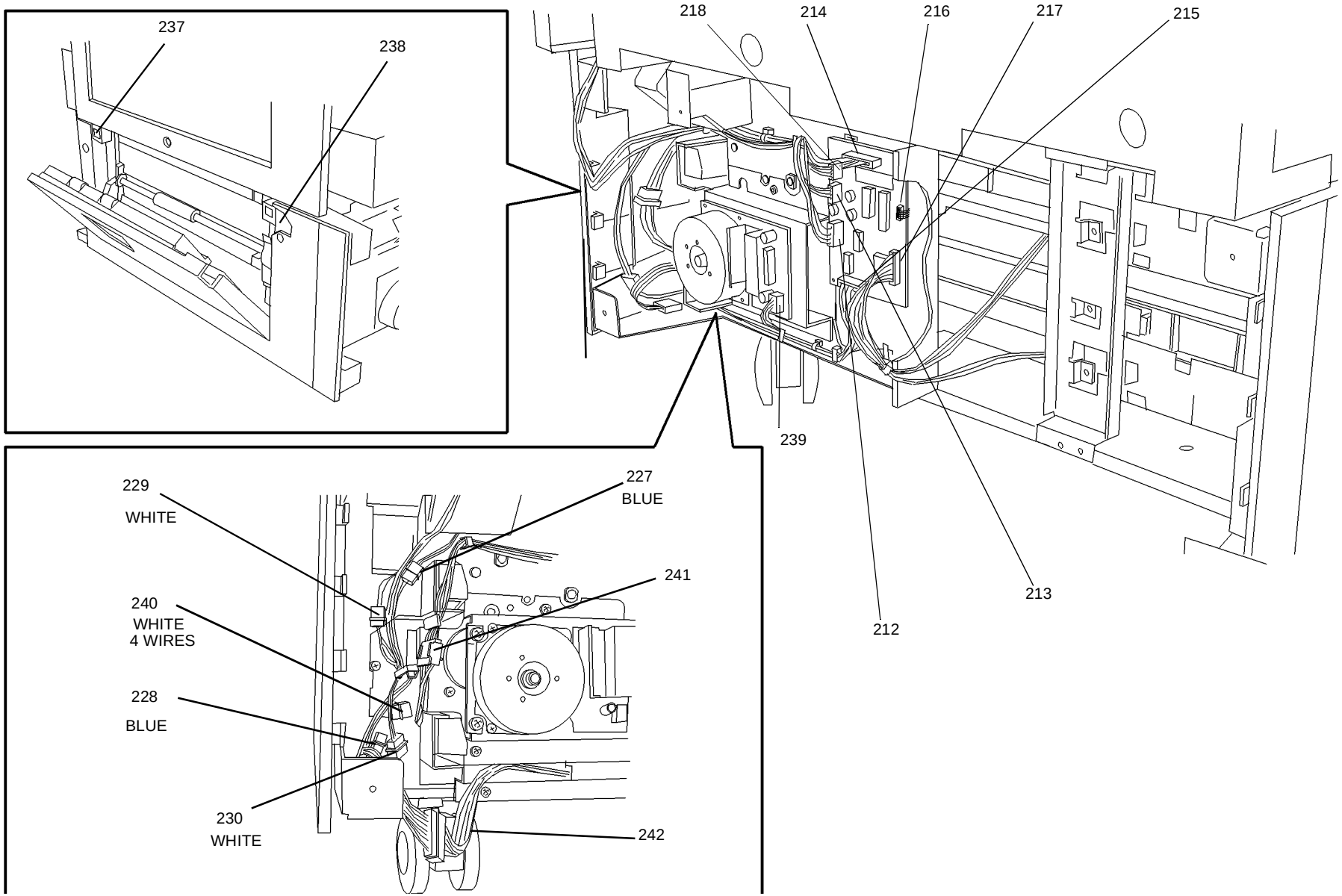

237
238
218
214
216
217
215
239
213
212
229
WHITE
227
BLUE
241
240
WHITE
4 WIRES
228
BLUE
230
WHITE
242

**Figure 10**

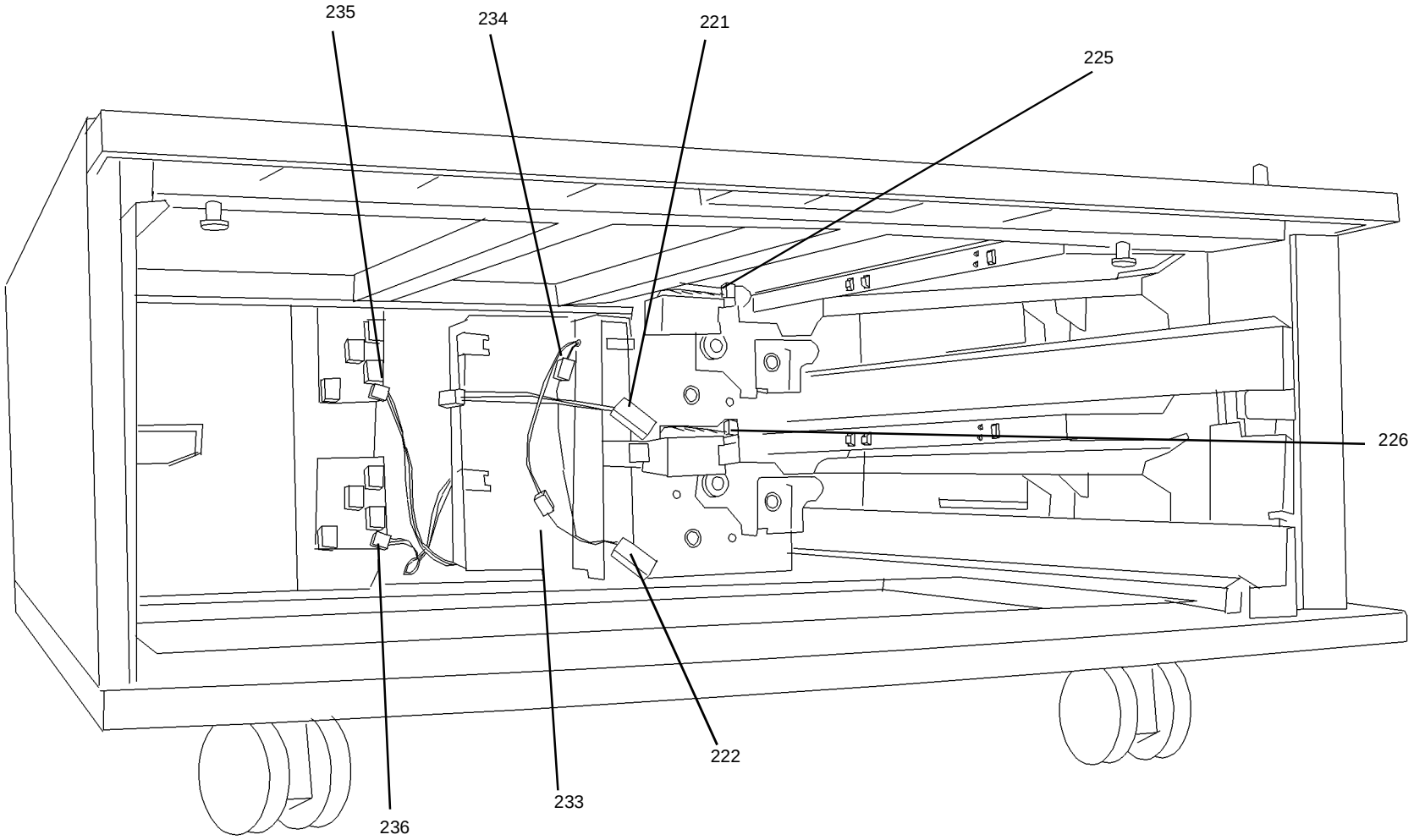



**Figure 11**

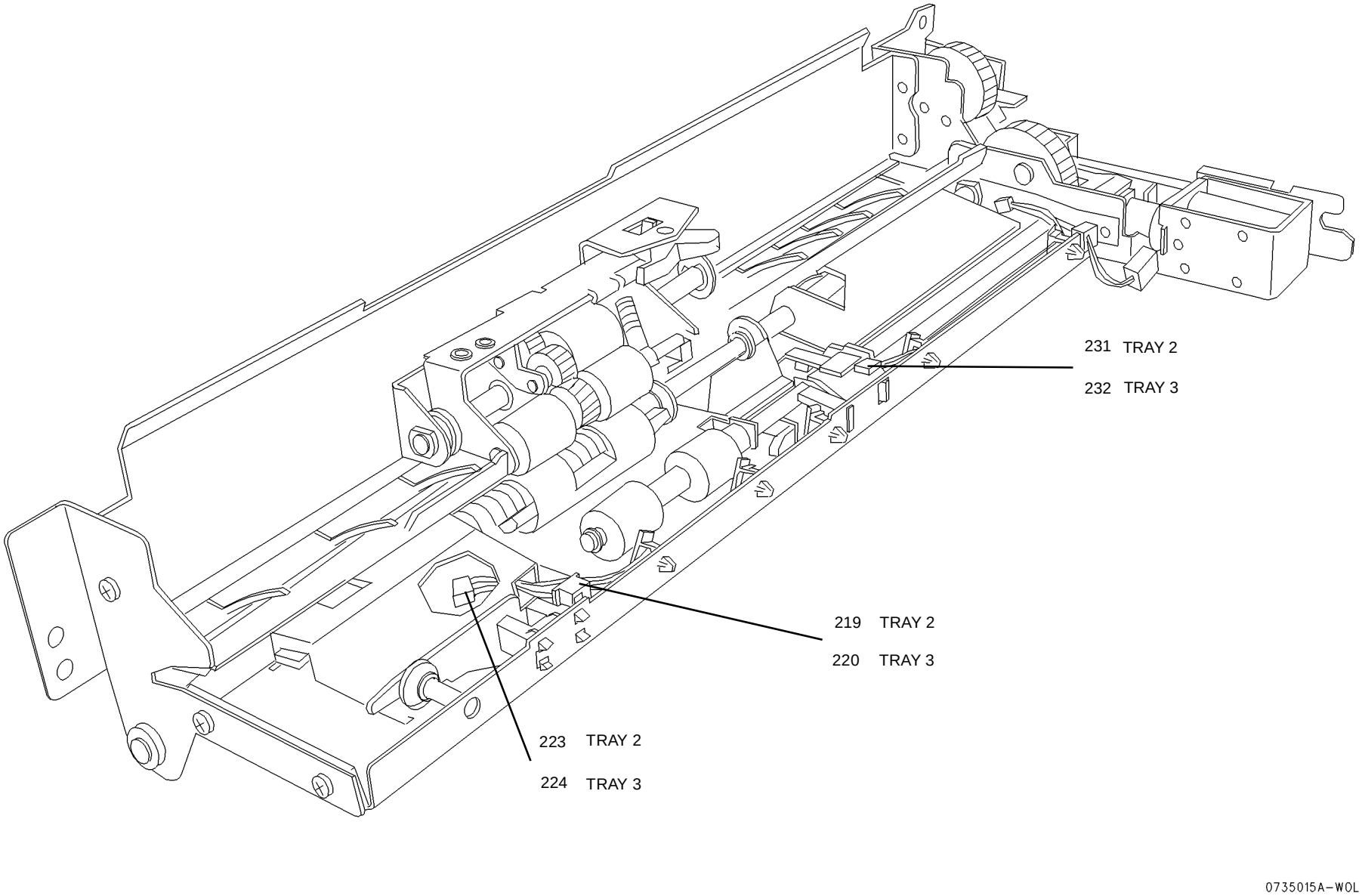

231 TRAY 2
232 TRAY 3
219 TRAY 2
220 TRAY 3
223 TRAY 2
224 TRAY 3
0735015A-WOL

**Figure 12**

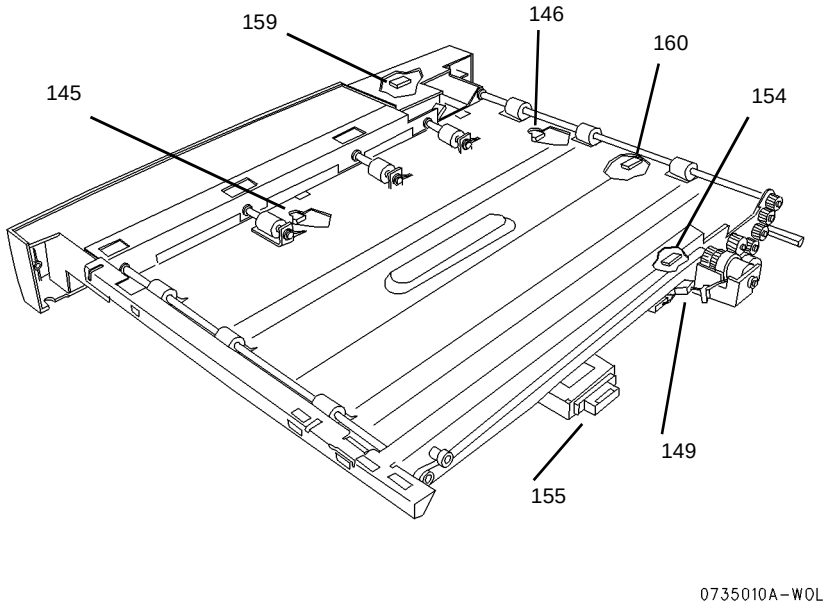



**Figure 13**

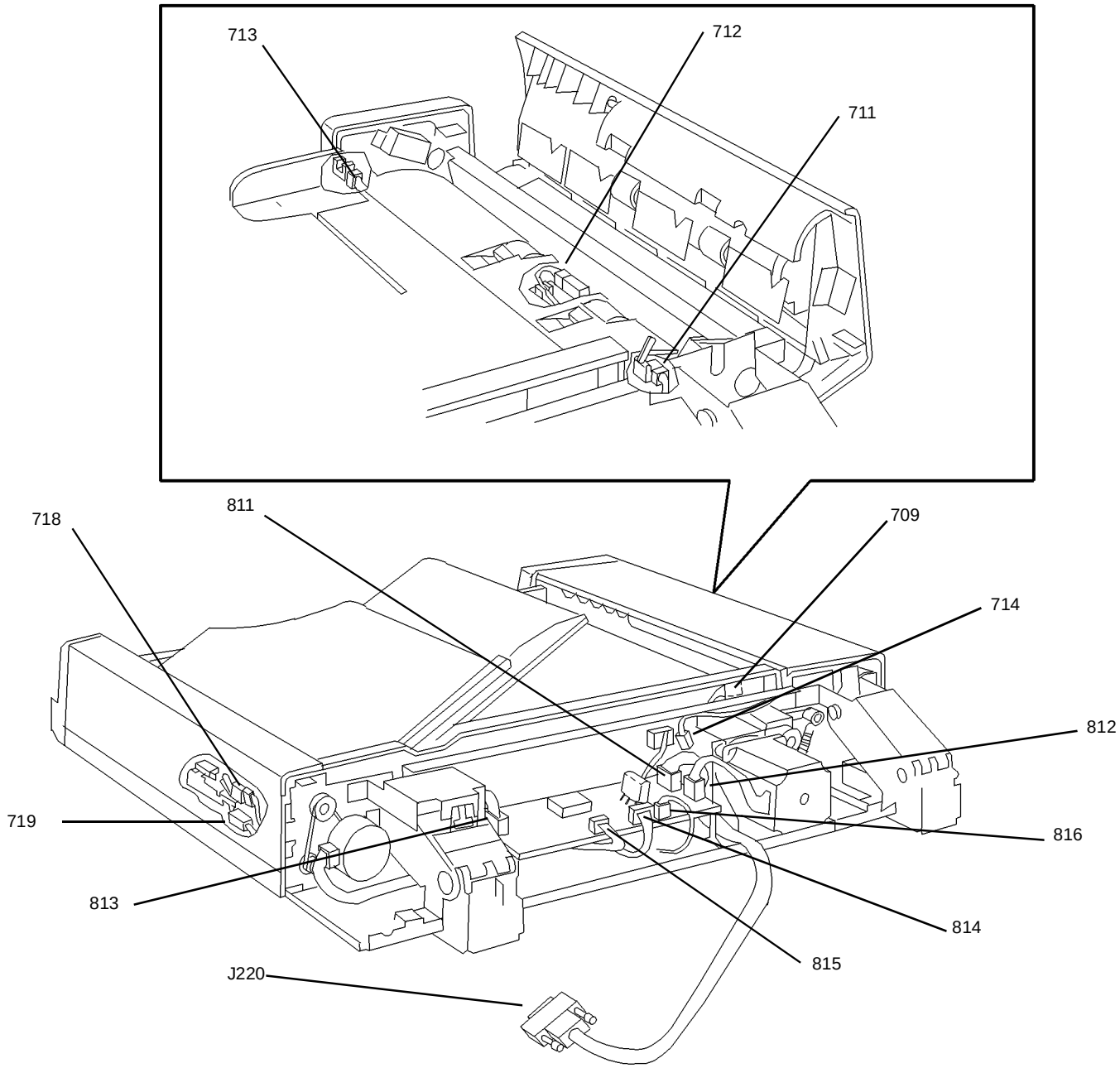
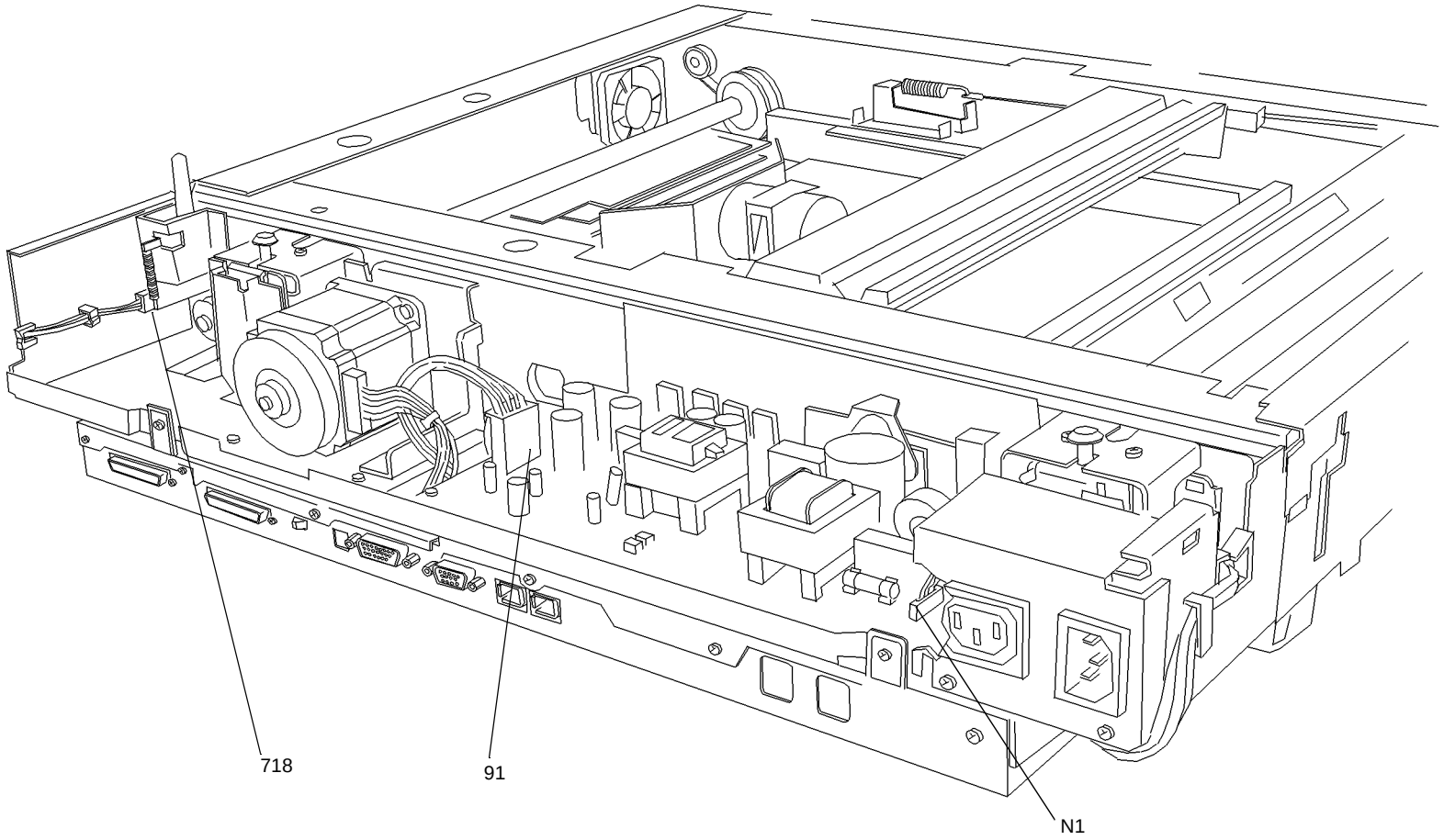

713
712
711
718
811
709
714
812
719
816
813
814
815
J220
0735011A-WOL

**Figure 14**




0735012A-WOL

**Figure 15**

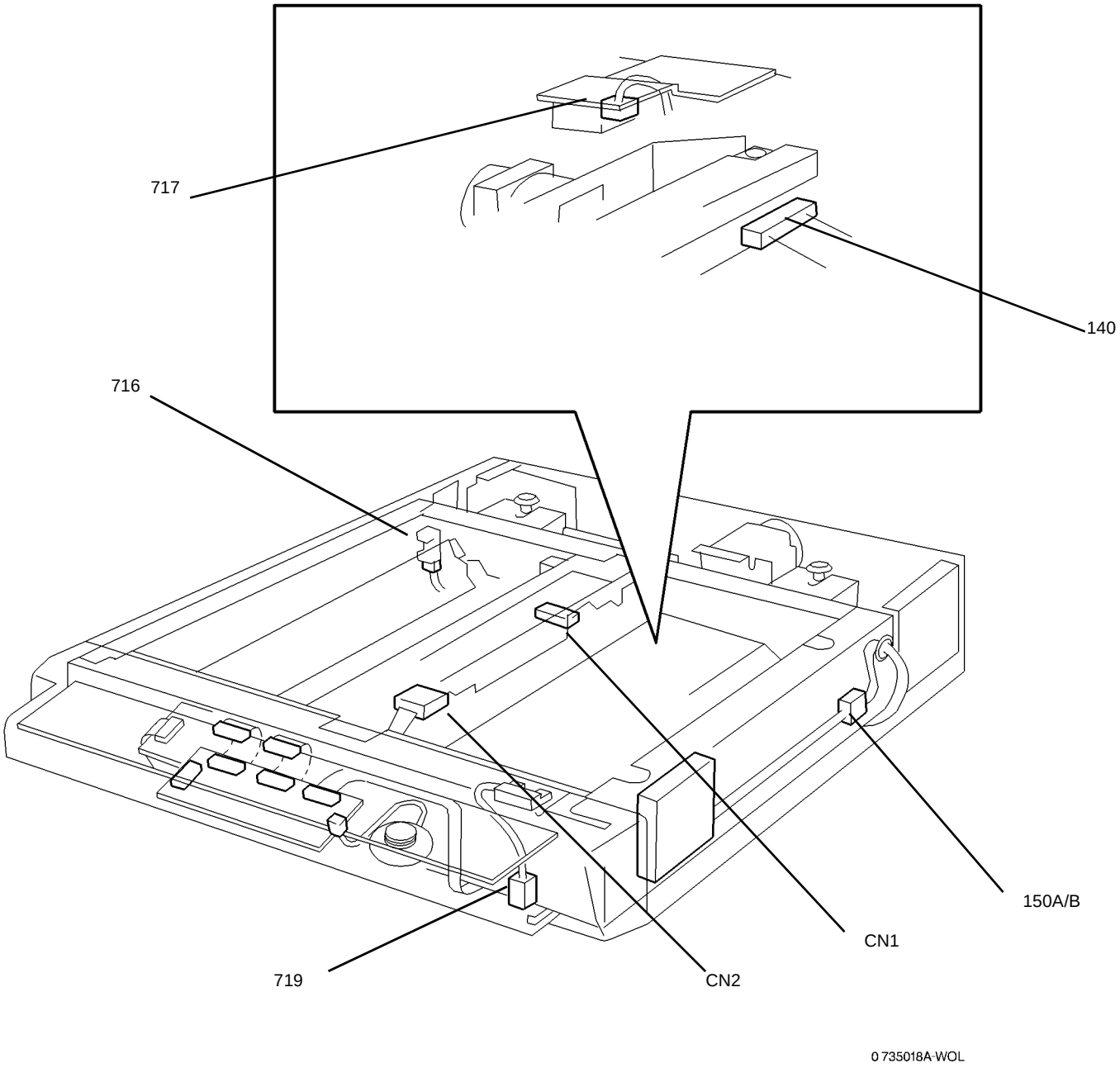



**Figure 16**

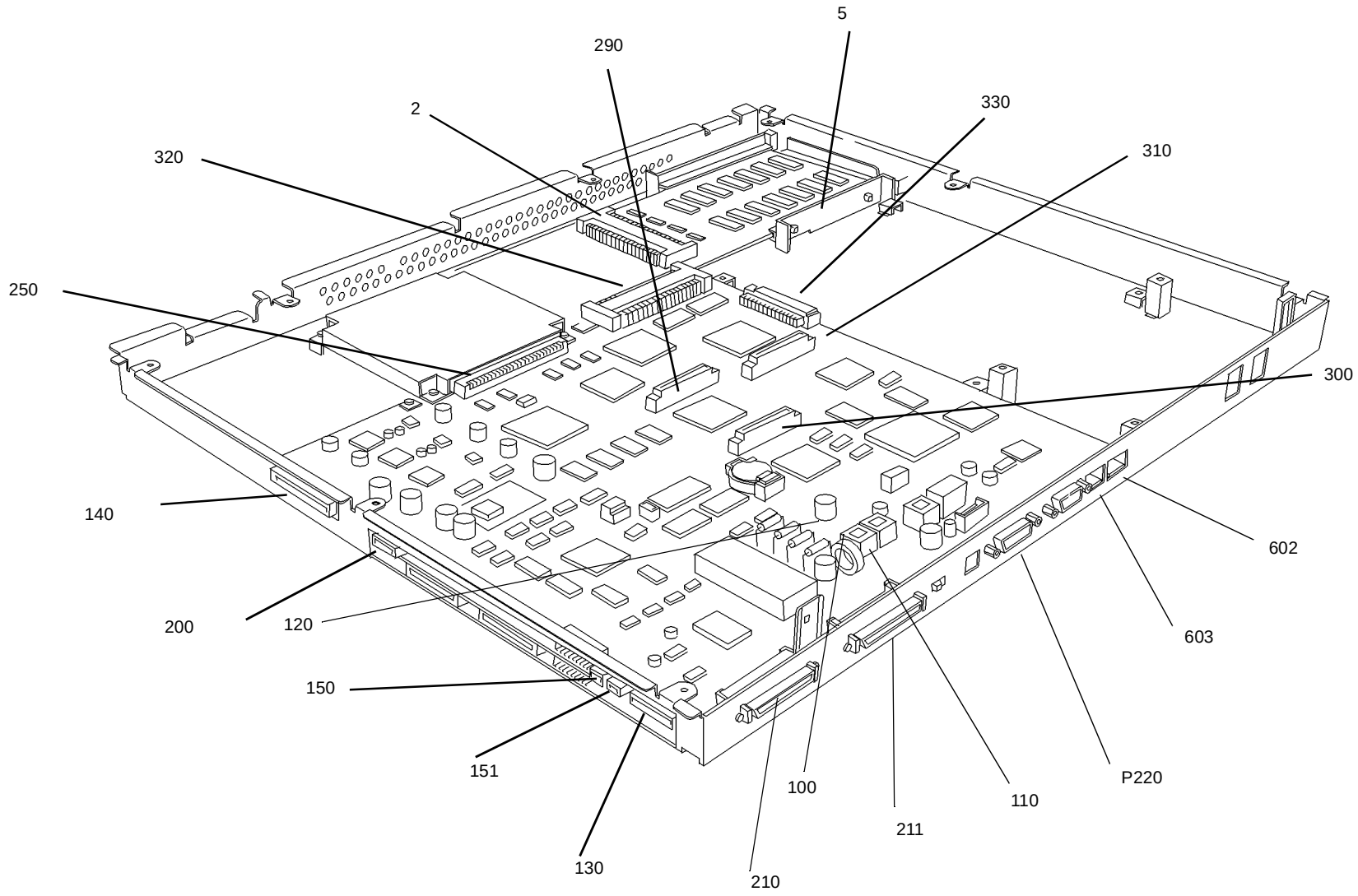

5
290
2
330
320
310
250
300
140
602
200
120
603
150
151
100
P220
110
211
130
210
0735014A-WOL

**Figure 17**

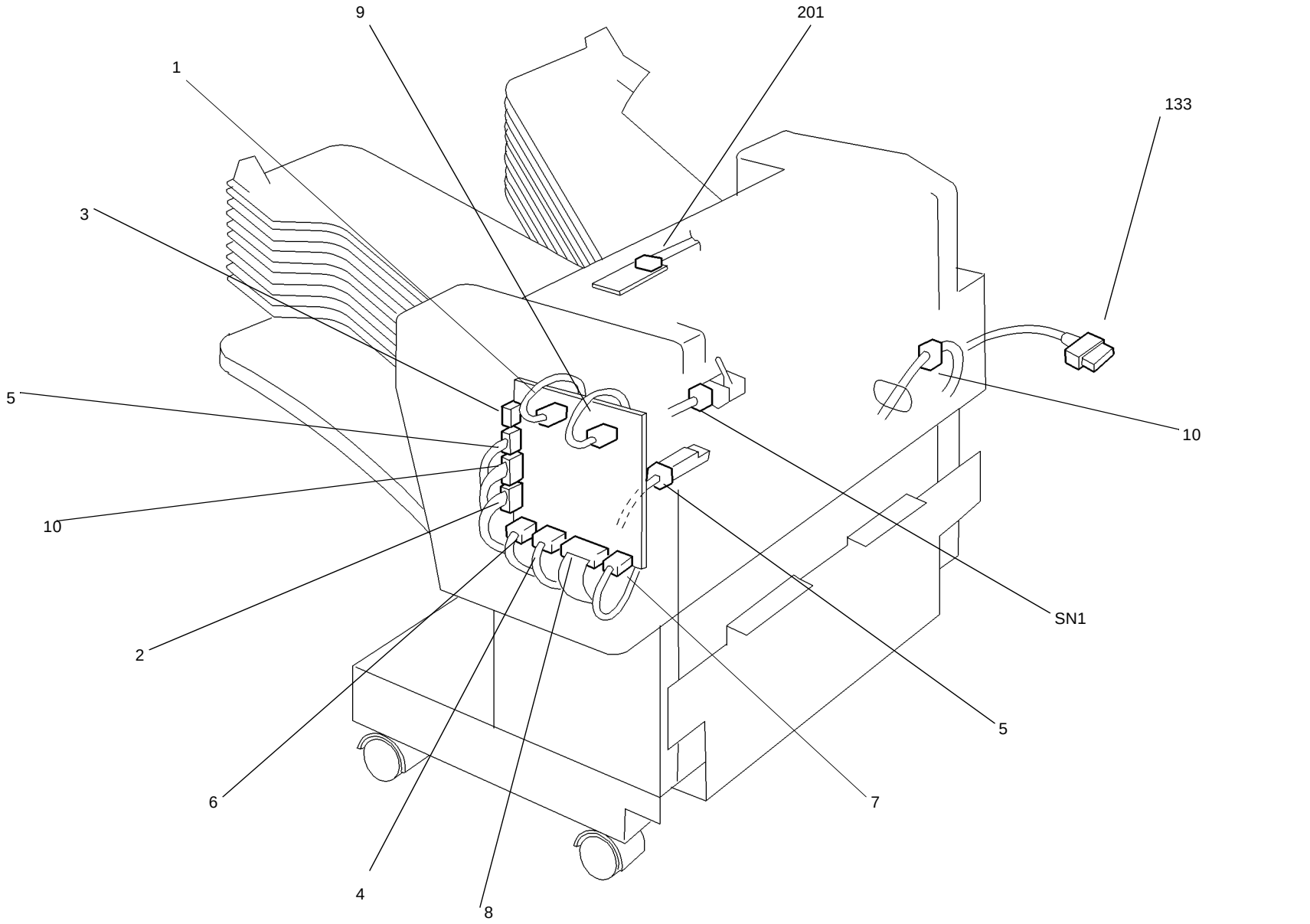



**Figure 18**

# Wirenets

## How to Use Wirenets

The wirenets in this section show the distribution of all DC voltages and DC Common used throughout the printer/copier. The wirenets are designed to interface with the circuit diagrams and the BSDs. If a voltage is missing from the circuit diagram or BSD, locate the component that is missing the voltage and follow the wirenet back to the source of the voltage or DC Common. Components are labeled with the BSD number in which they appear.

# +5 VDC Wirenet (1 of 3)

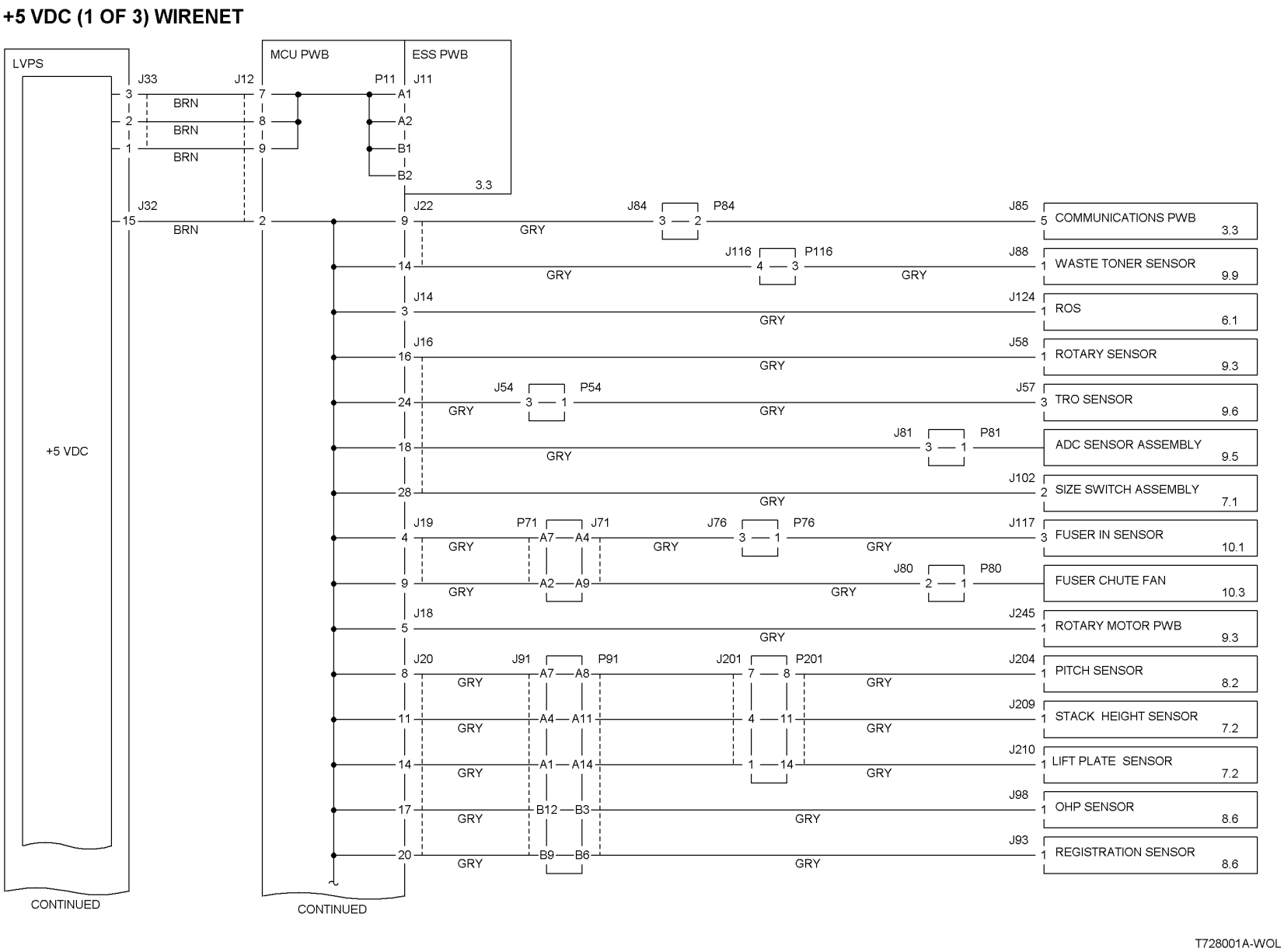



**Figure 1 +5 VDC (1 of 3)**

## +5 VDC (2 OF 3) WIRENET

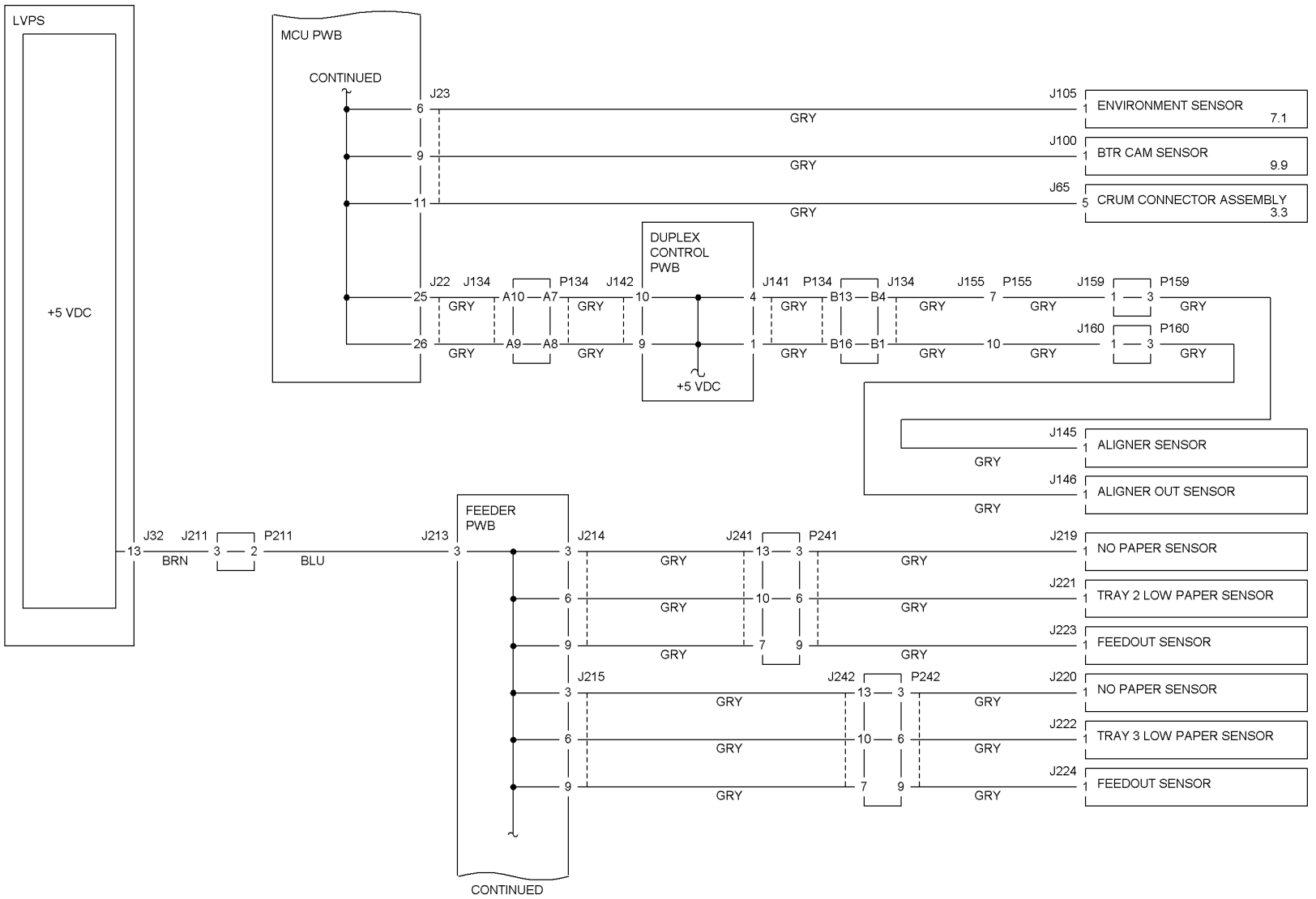
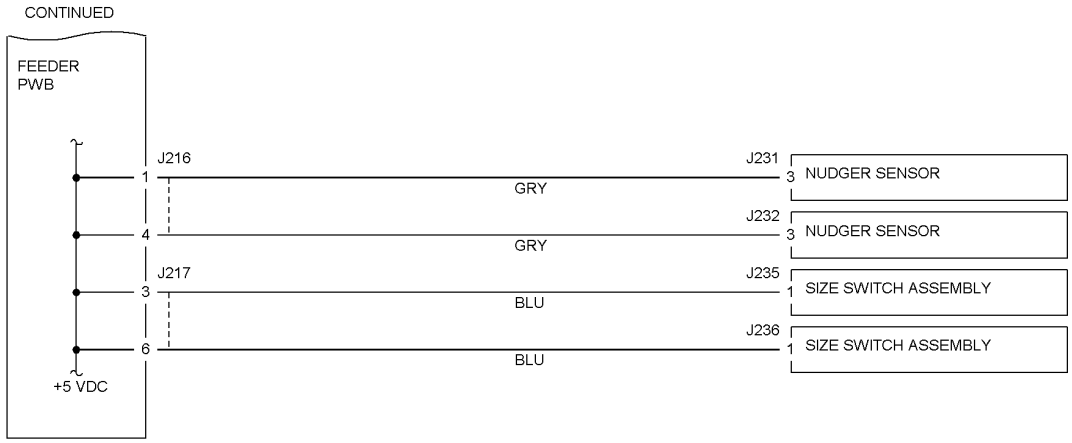



**Figure 1 +5 VDC (2 of 3)**

# +5 VDC Wirenet (3 of 3)

## +5 VDC (3 OF 3) WIRENET




T728003A-WOL

**Figure 1 +5 VDC (3 of 3)**

# +24 VDC Interlocked Wirenet (1 of 3)

## +24 VDC INTERLOCKED (1 OF 3) WIRENET

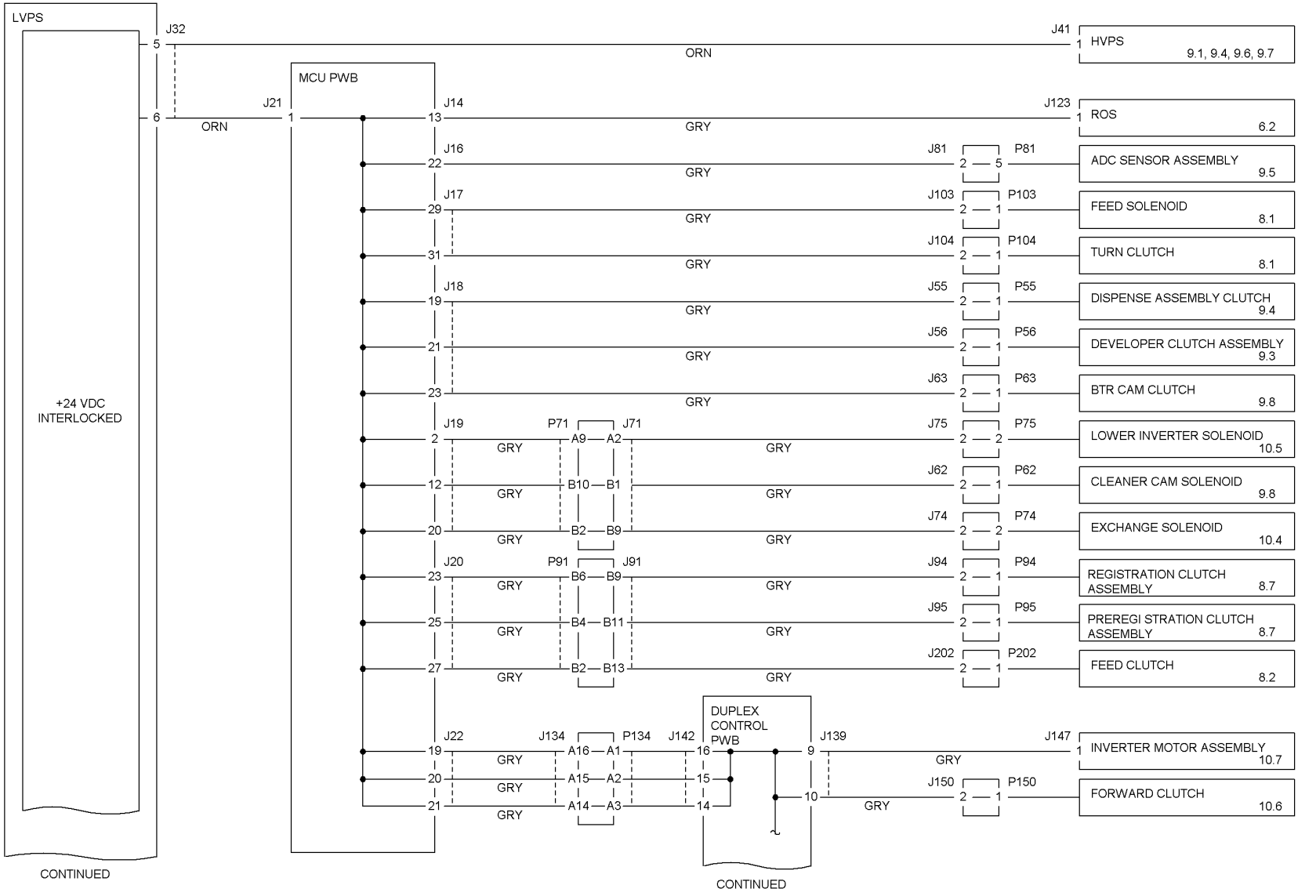



**Figure 1 +24 VDC Interlocked (1 of 3)**

## +24 VDC INTERLOCKED (2 OF 3) WIRENET

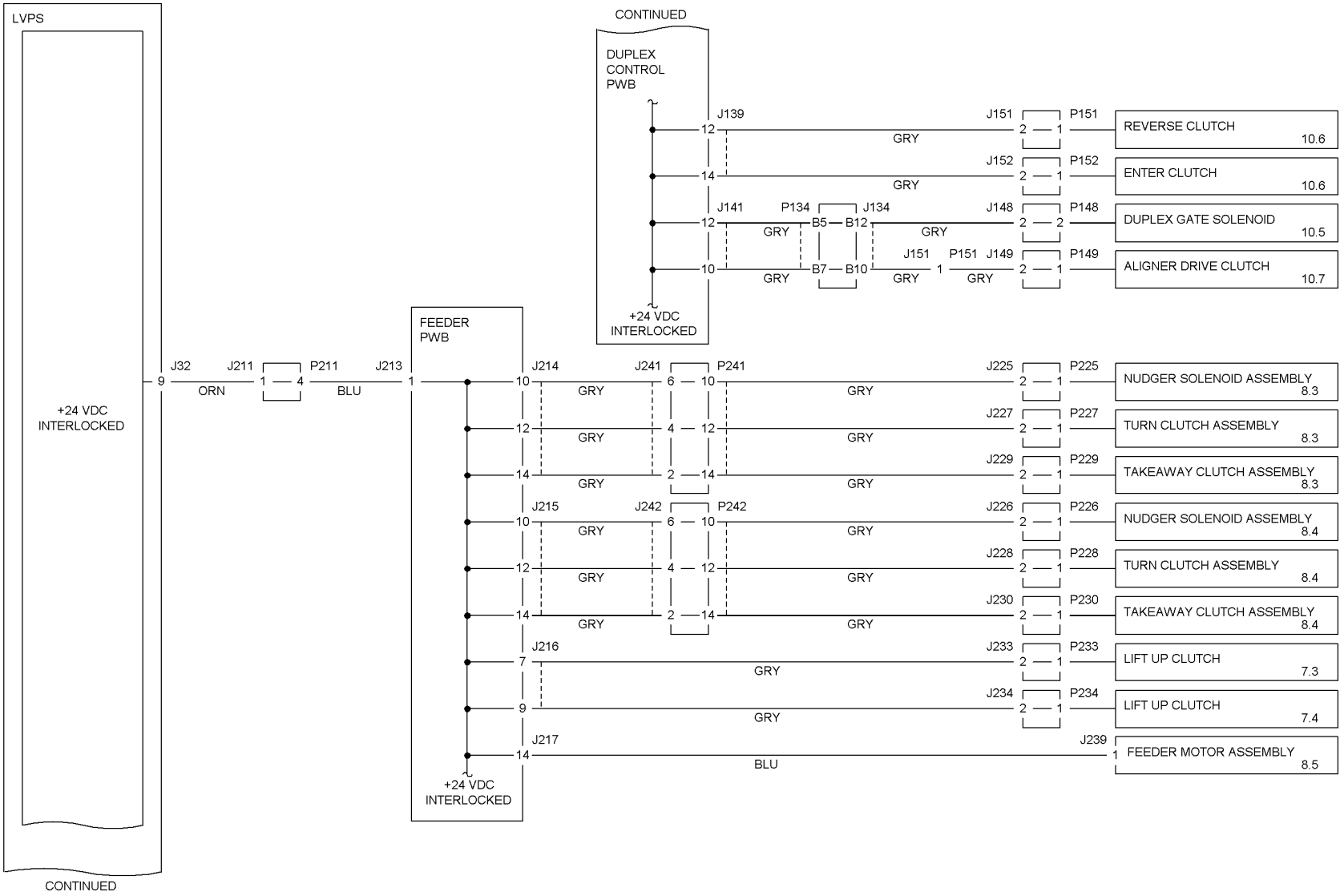
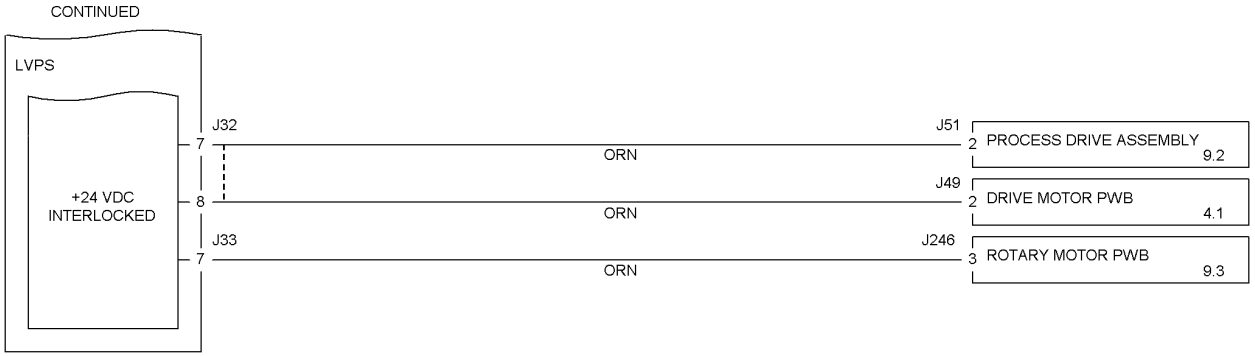



**Figure 1 +24 VDC Interlocked (2 of 3)**

# +24 VDC Interlocked Wirenet (3 of 3)

## +24 VDC INTERLOCKED (3 OF 3) WIRENET




T728006A-WOL

**Figure 1 +24 VDC Interlocked (3 of 3)**

# DC Com Wirenet (1 of 5)

## DC COM (1 OF 5) WIRENET

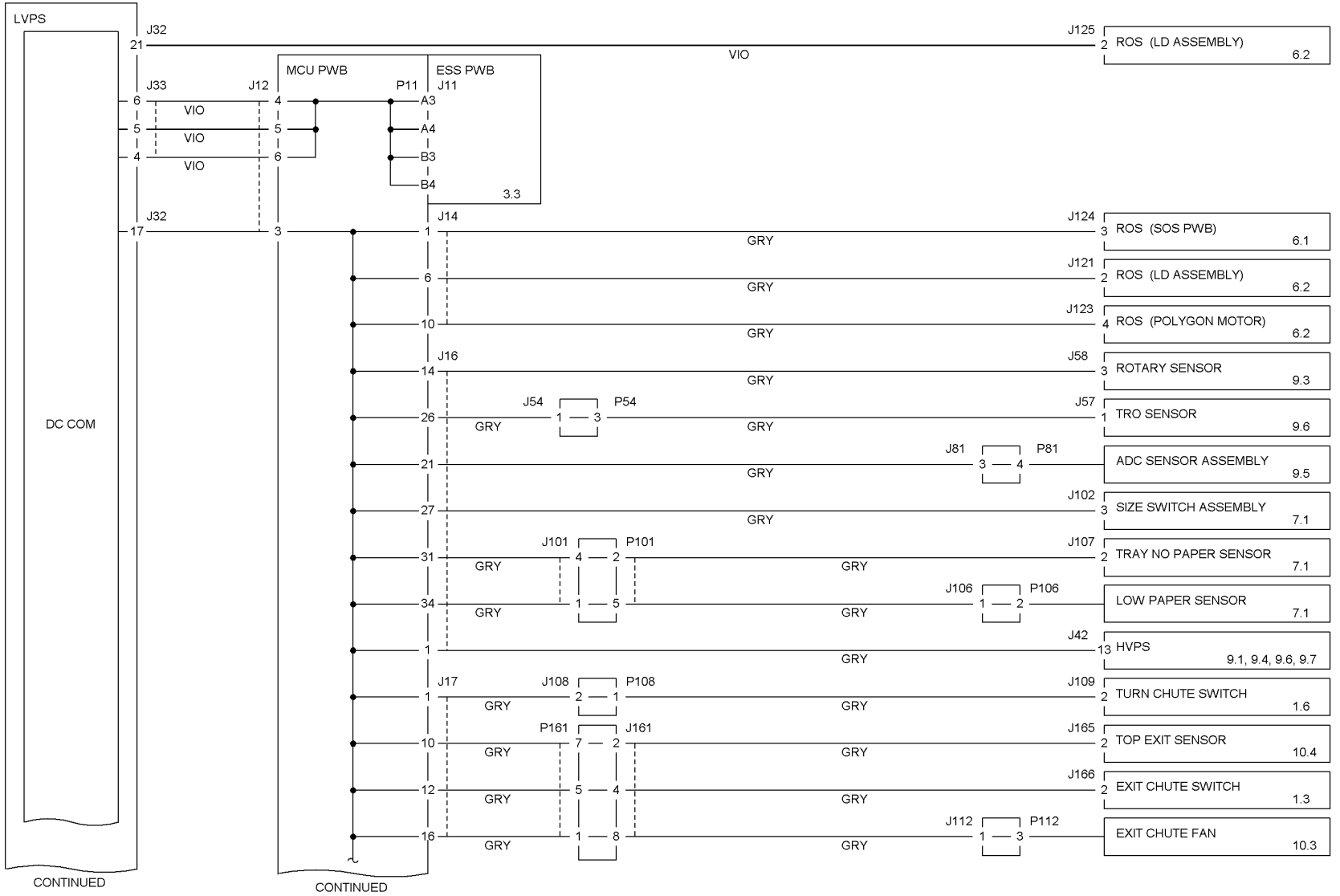



**Figure 1 DC Com (1 of 5)**

## DC COM (2 OF 5) WIRENET

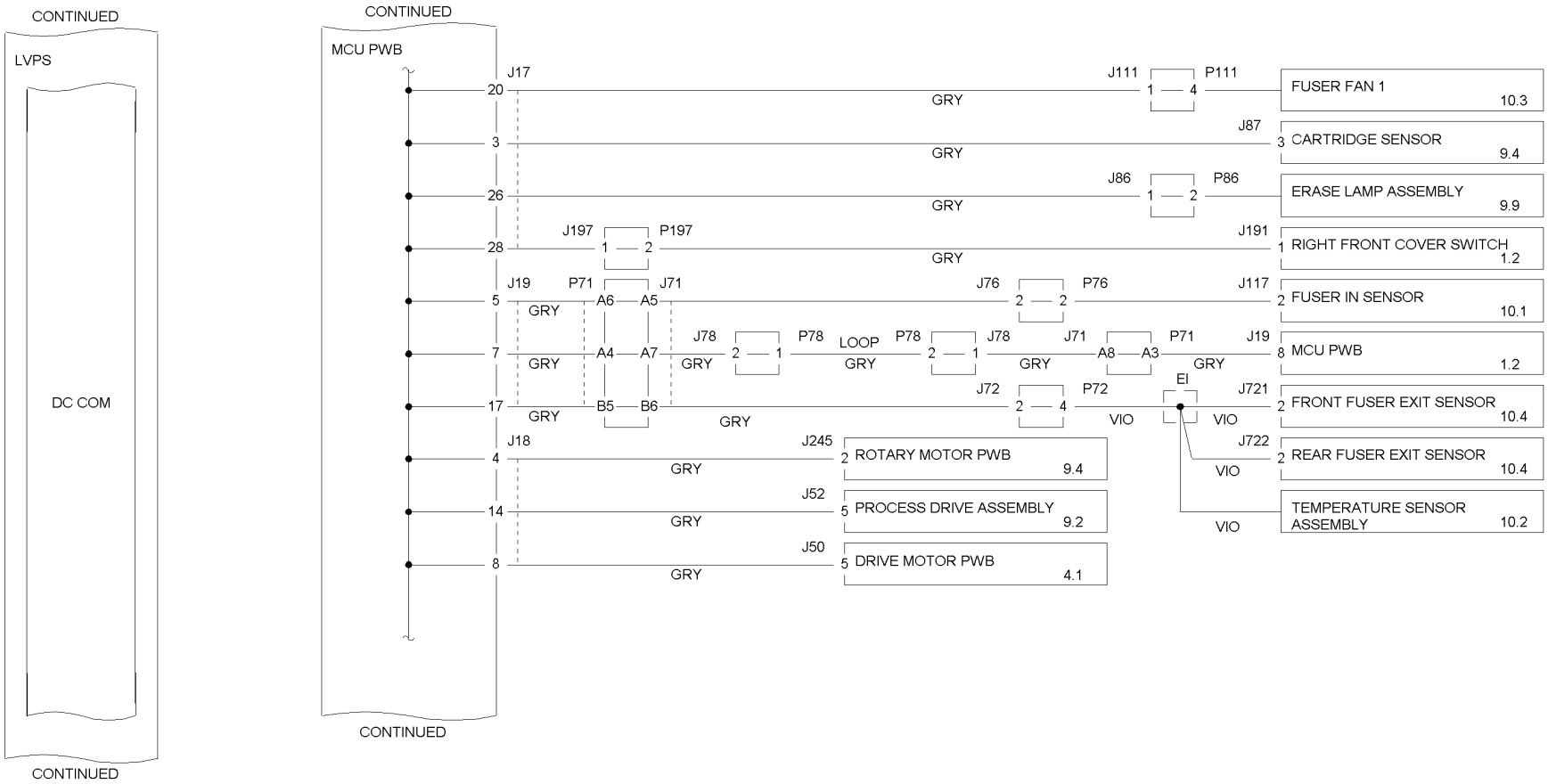
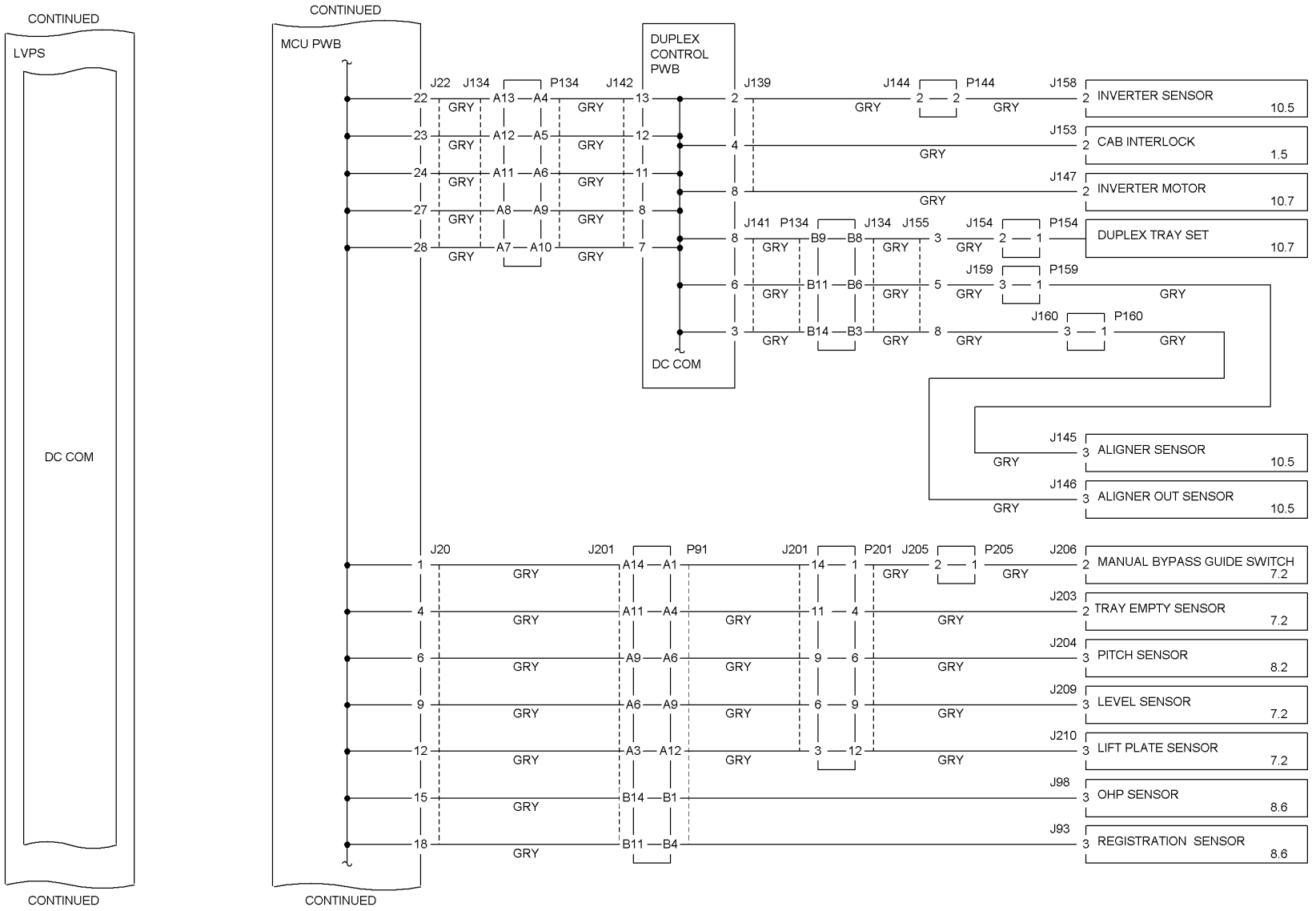



**Figure 1 DC Com (2 of 5)**

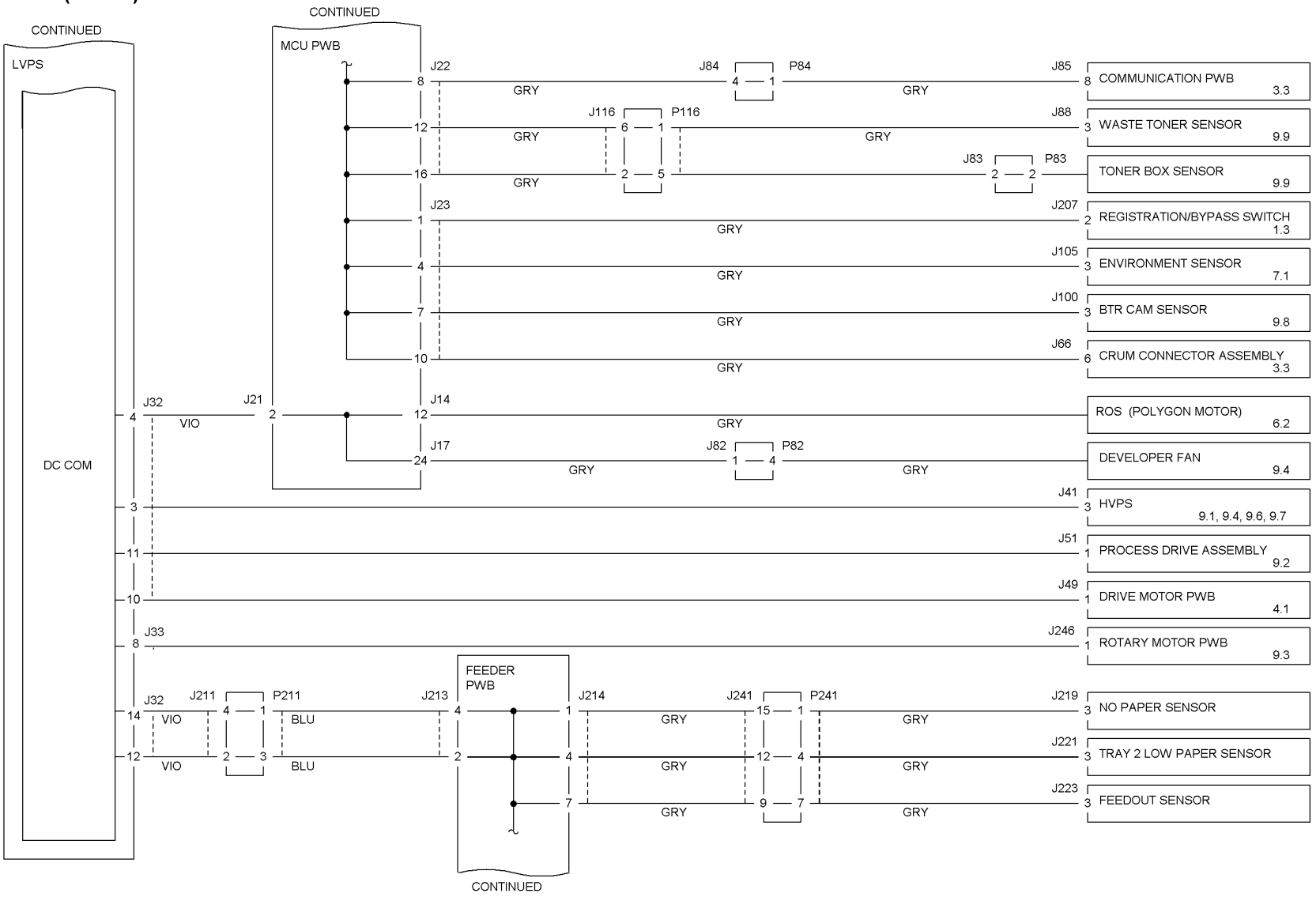
## DC COM (3 OF 5) WIRENET




T728009A-WOL

**Figure 1 DC Com (3 of 5)**

## DC COM (4 OF 5) WIRENET

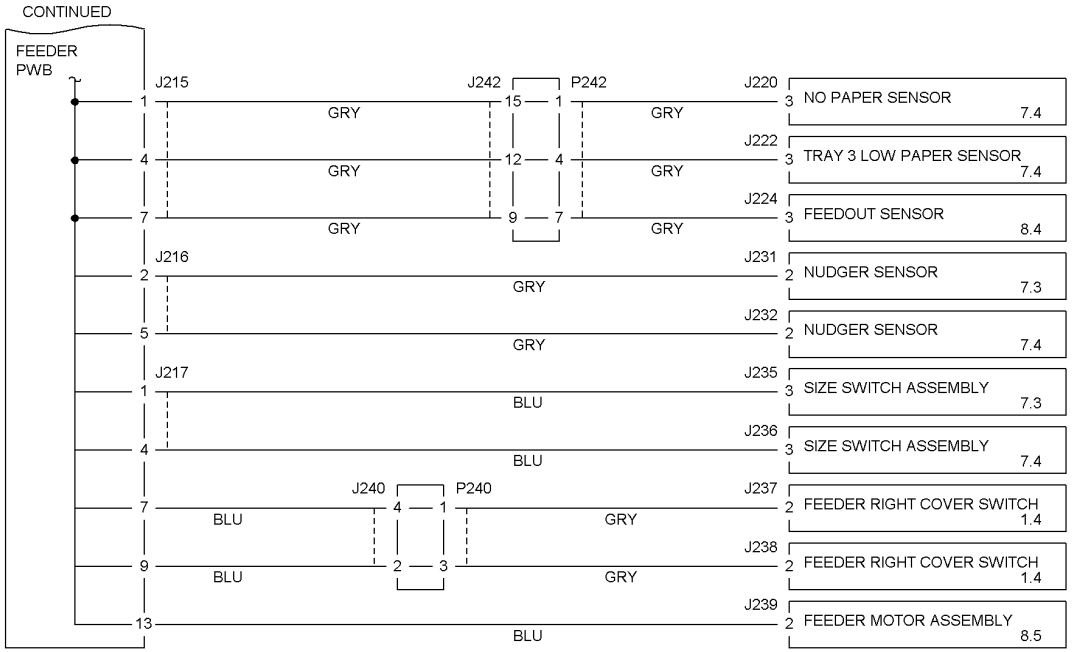



T728010A-WOL

**Figure 1 DC Com (4 of 5)**

# DC Com Wirenet (5 of 5)

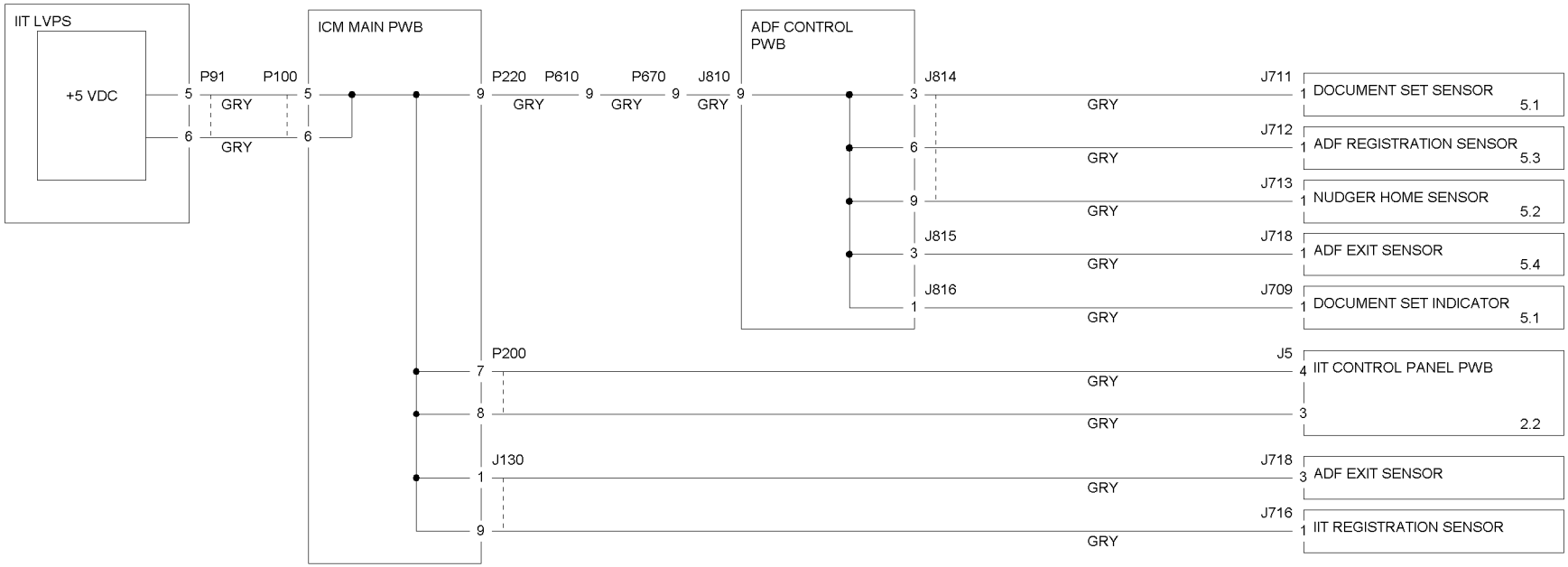
## DC COM (5 OF 5) WIRENET




T728011A-WOL

**Figure 1 DC Com (5 of 5)**

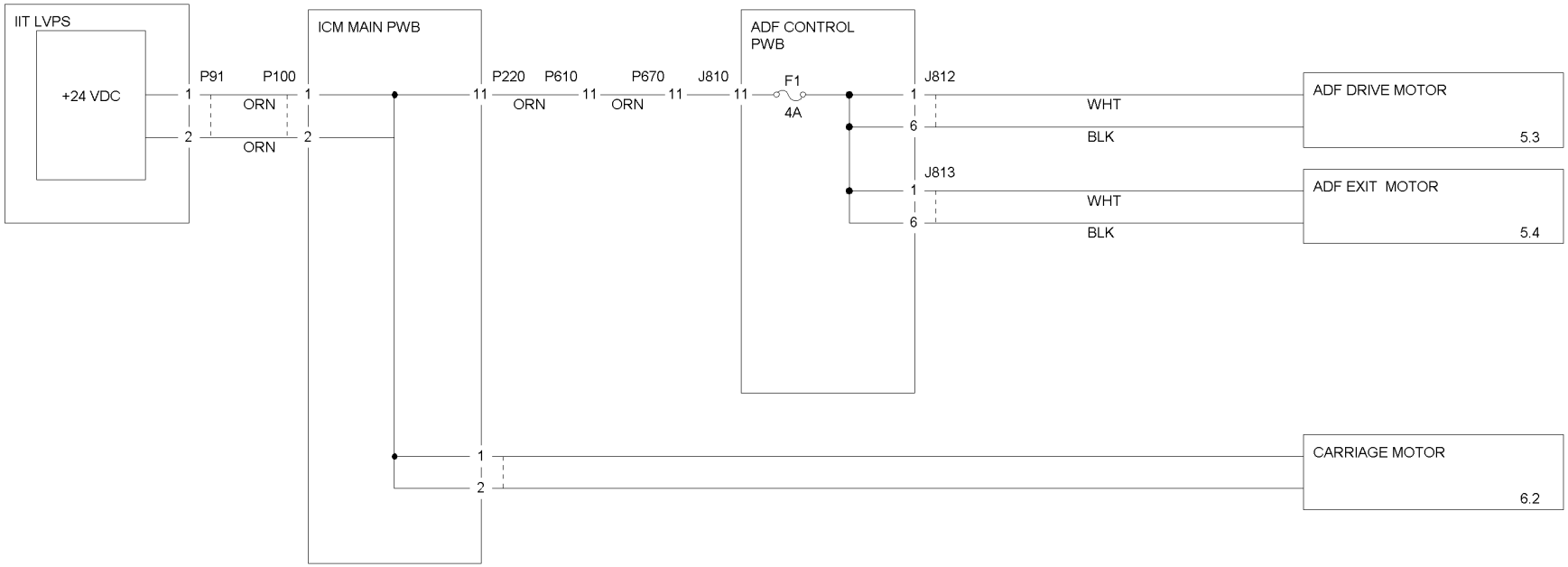
## +5 VDC (IIT) WIRENET




T728013-A-WOL

**Figure 1 +5 VDC (IIT)**

## +24 VDC (IIT) WIRENET




T728012-A-WOL

**Figure 1 +24 VDC (IIT)**

# BSDs

## Purpose

The Block Schematic Diagrams (BSDs) show the distribution of electrical and mechanical power. Each functional chain is represented by a BSD or a group of BSDs. A BSD is a functional flow diagram containing electrical circuit information and mechanical inputs and outputs. The functional flow is from left to right (inputs on the left and outputs on the right).

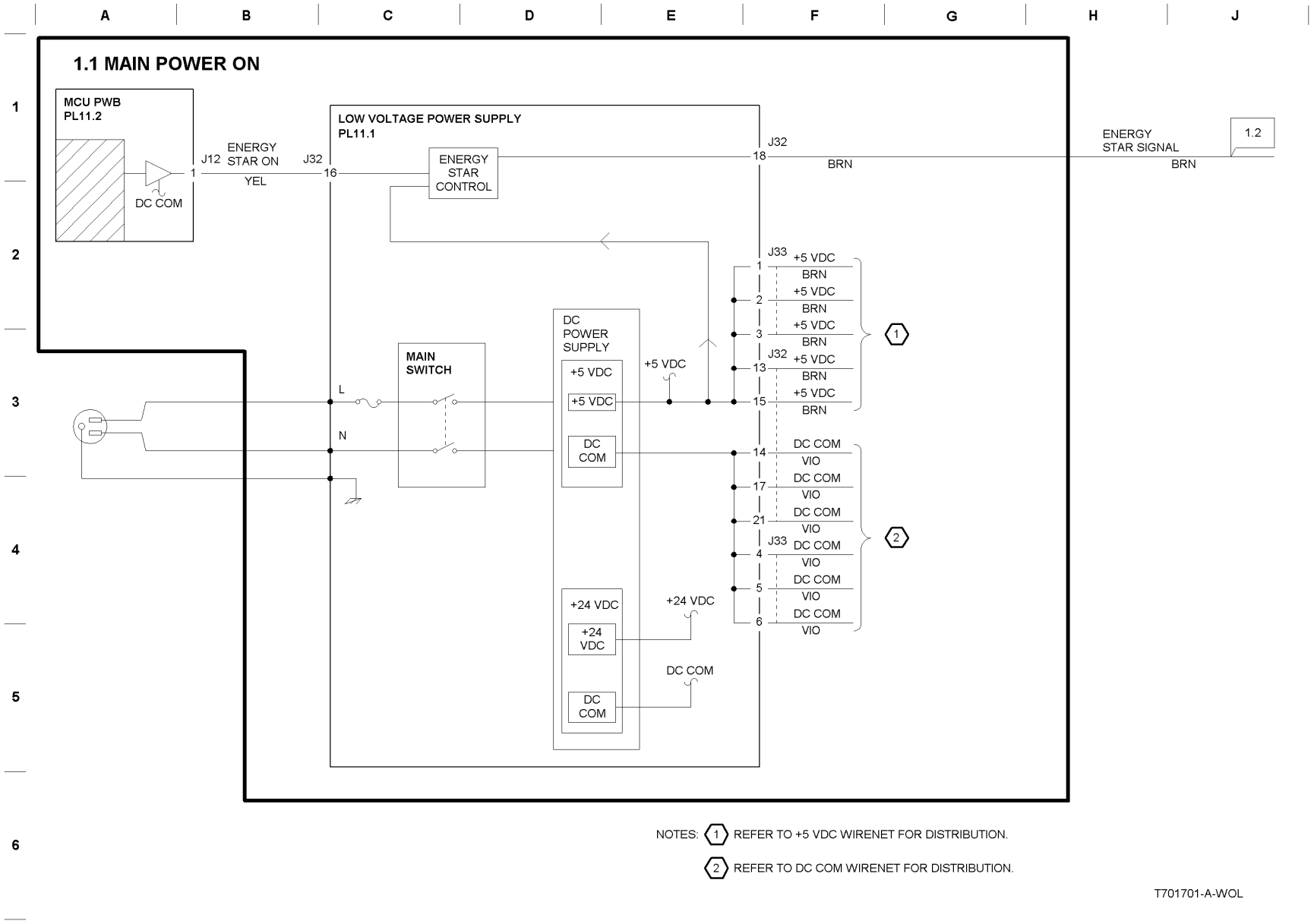
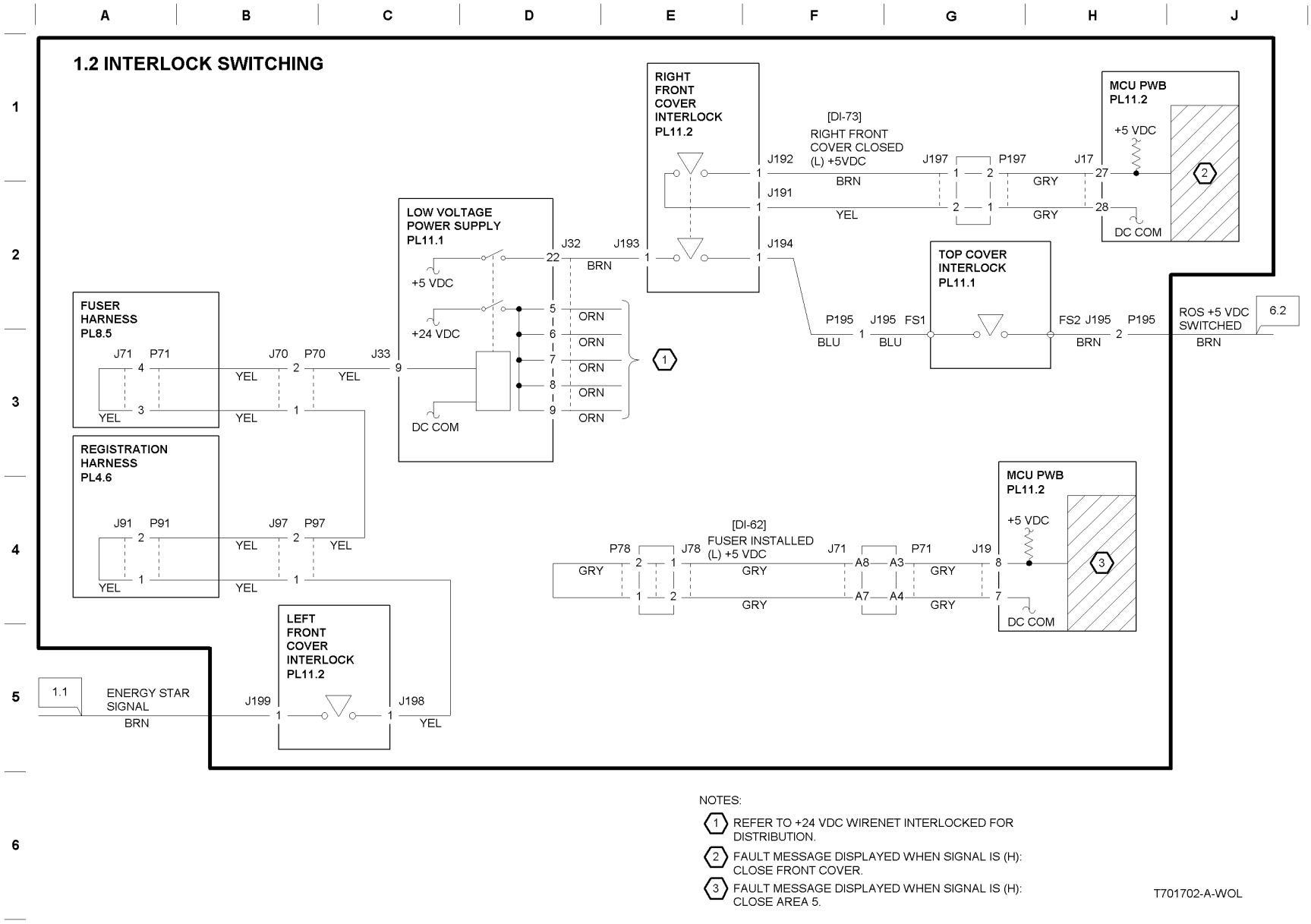



**Figure 1 Main Power On**




NOTES:

1. REFER TO +24 VDC WIRENET INTERLOCKED FOR DISTRIBUTION.
2. FAULT MESSAGE DISPLAYED WHEN SIGNAL IS (H): CLOSE FRONT COVER.
3. FAULT MESSAGE DISPLAYED WHEN SIGNAL IS (H): CLOSE AREA 5.

**Figure 1 Interlock Switching**

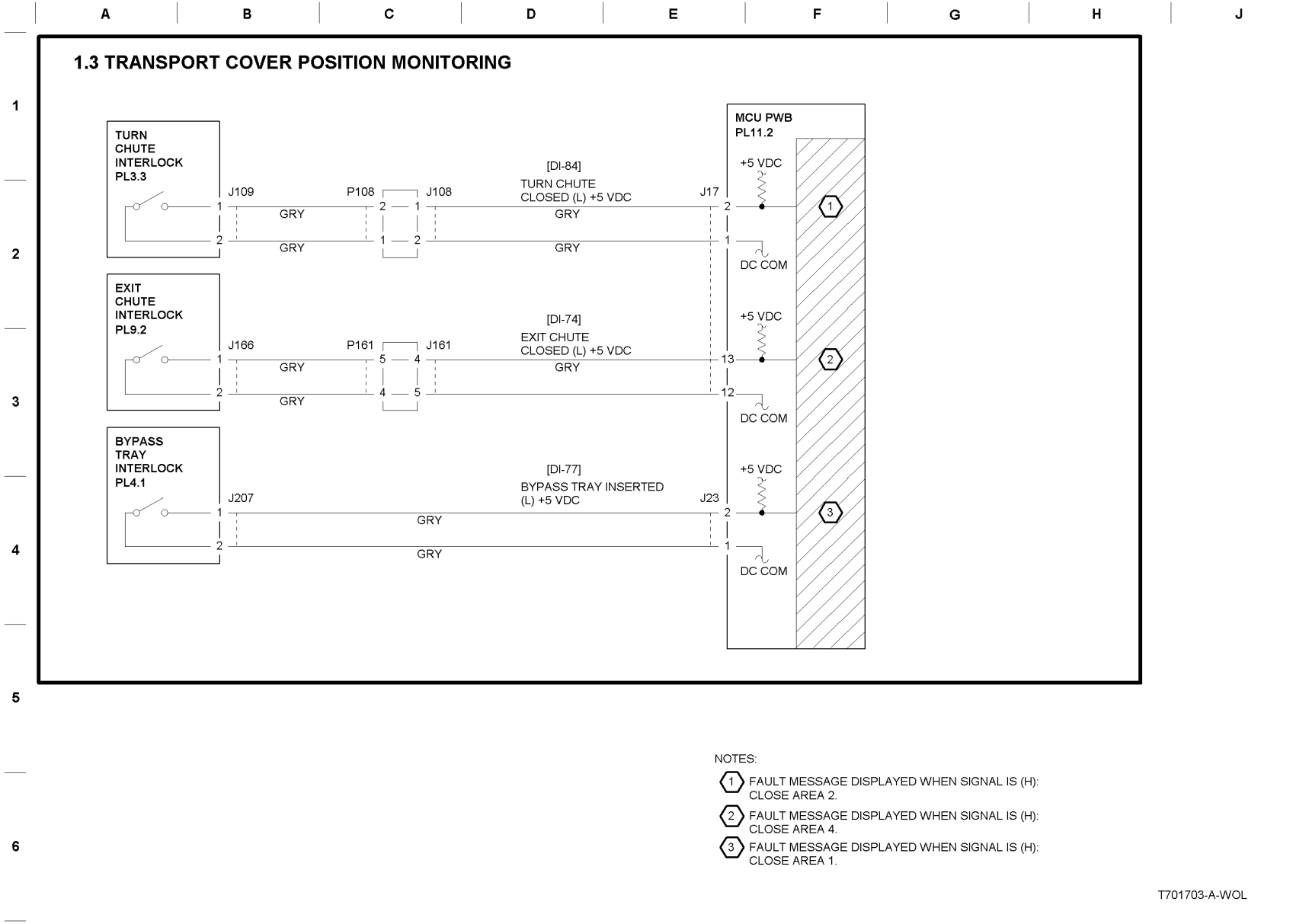



**Figure 1 Transport Cover Position Monitoring**

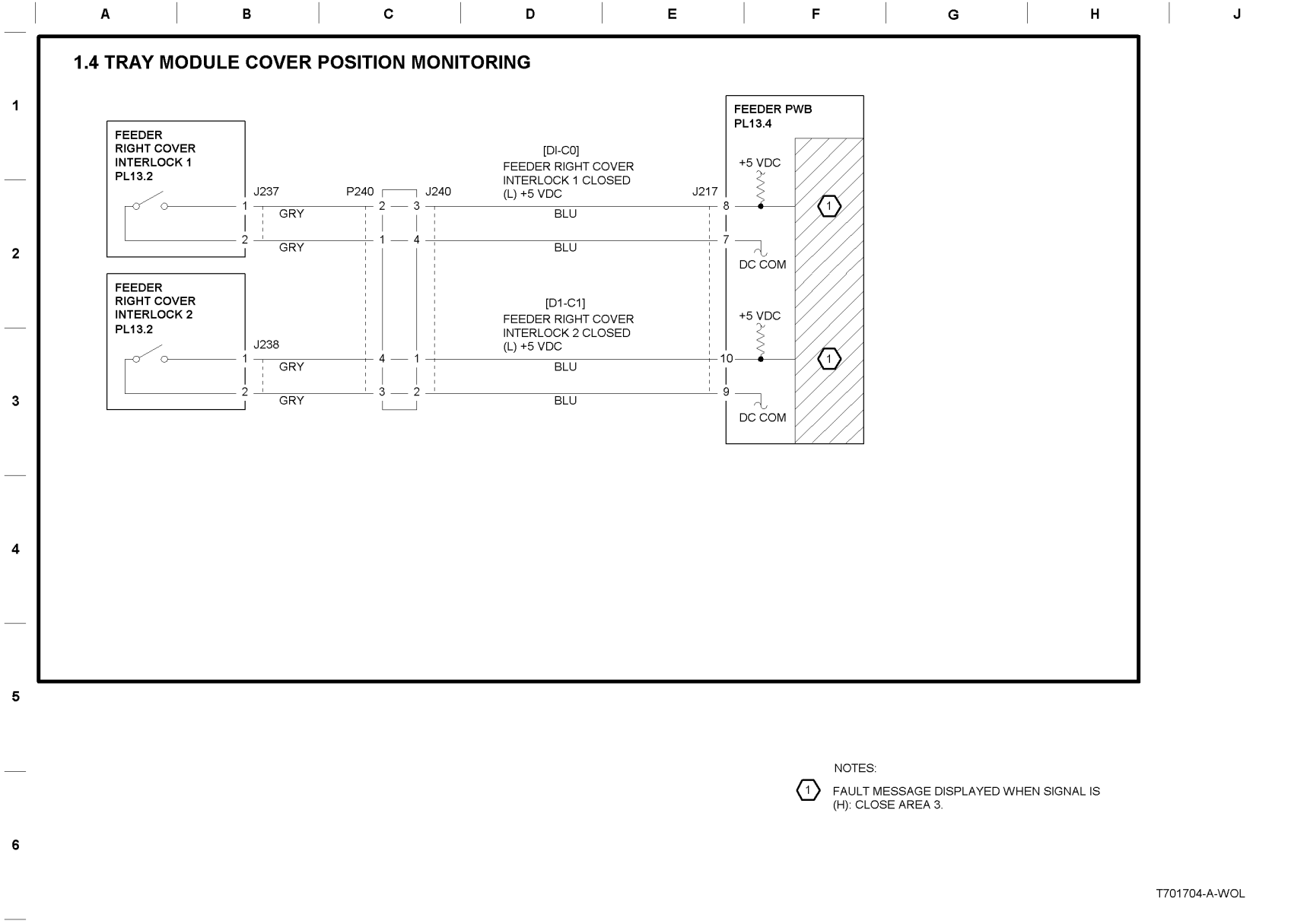



**Figure 1 Tray Module Cover Position Monitoring**

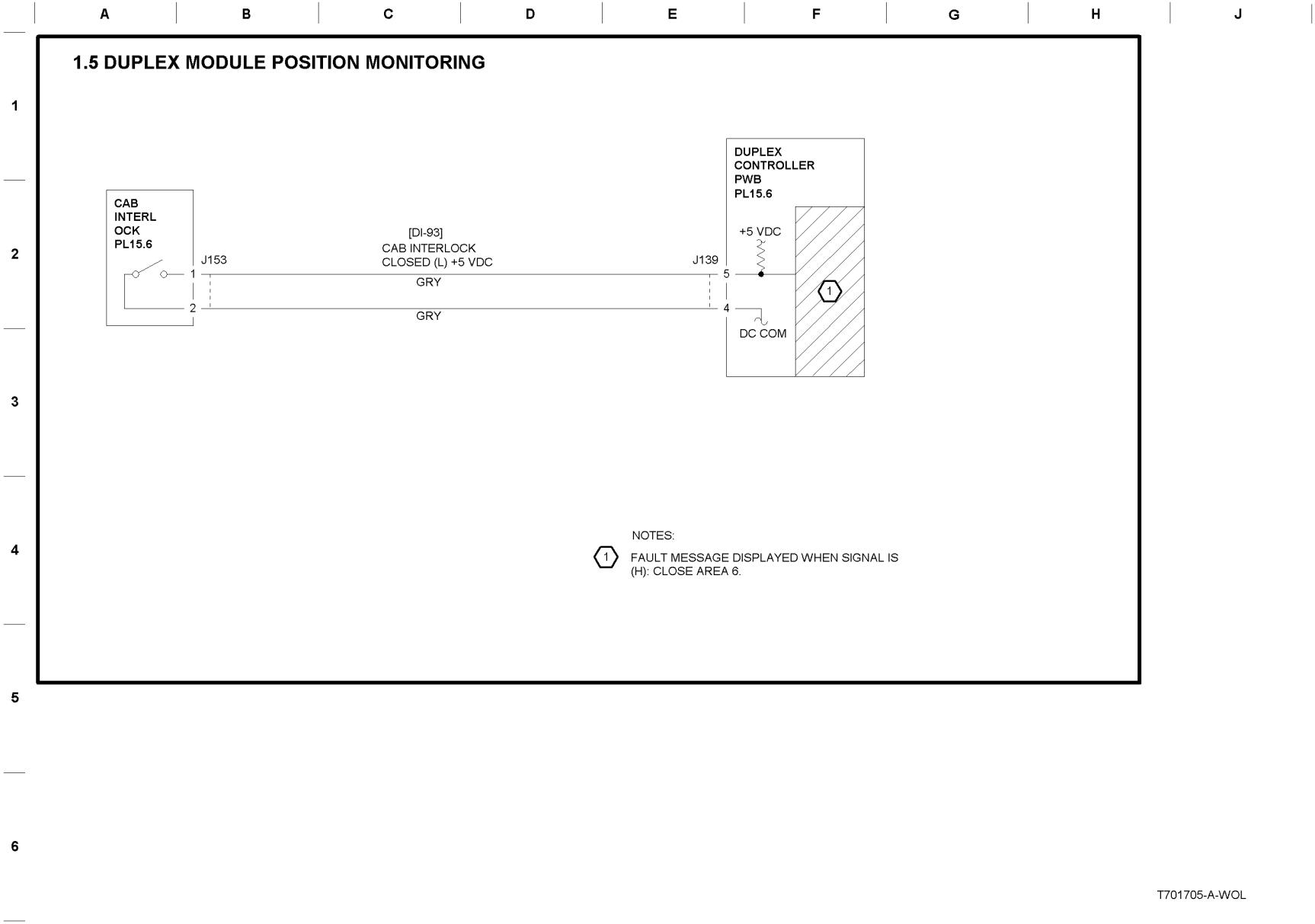



**Figure 1 Duplex Module Cover Position Monitoring**

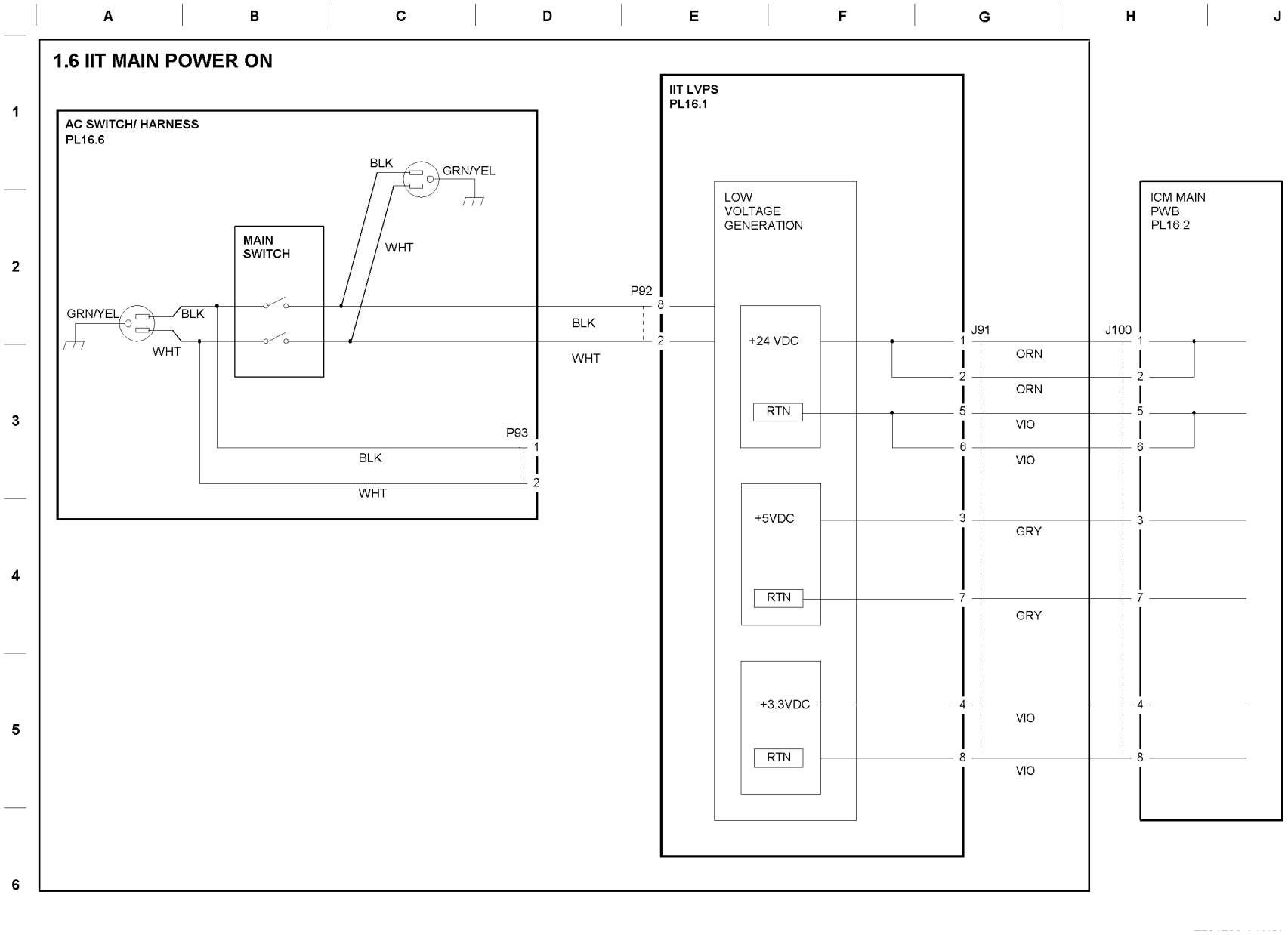



**Figure 1 IIT Main Power On**

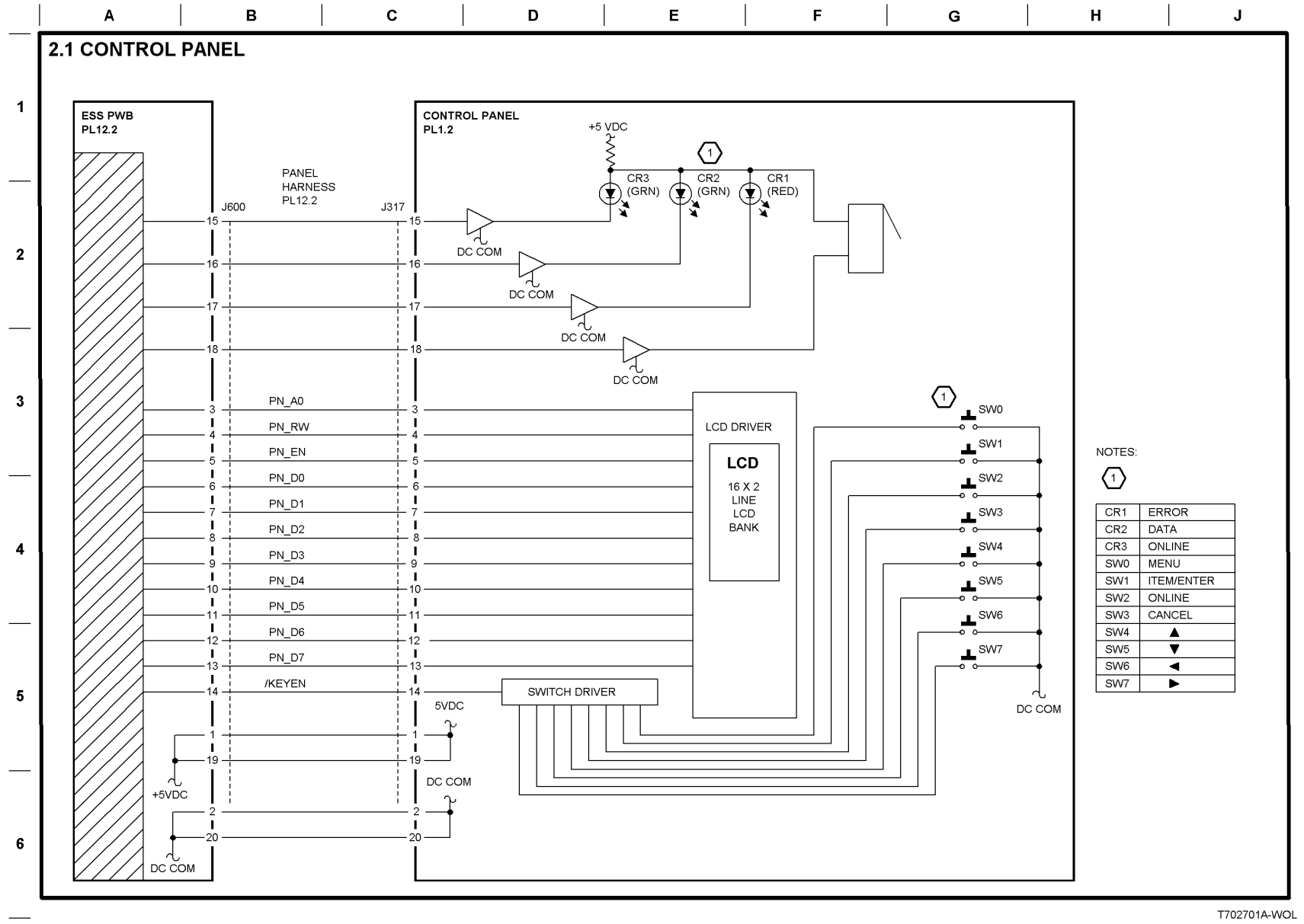



**Figure 1 Control Panel**

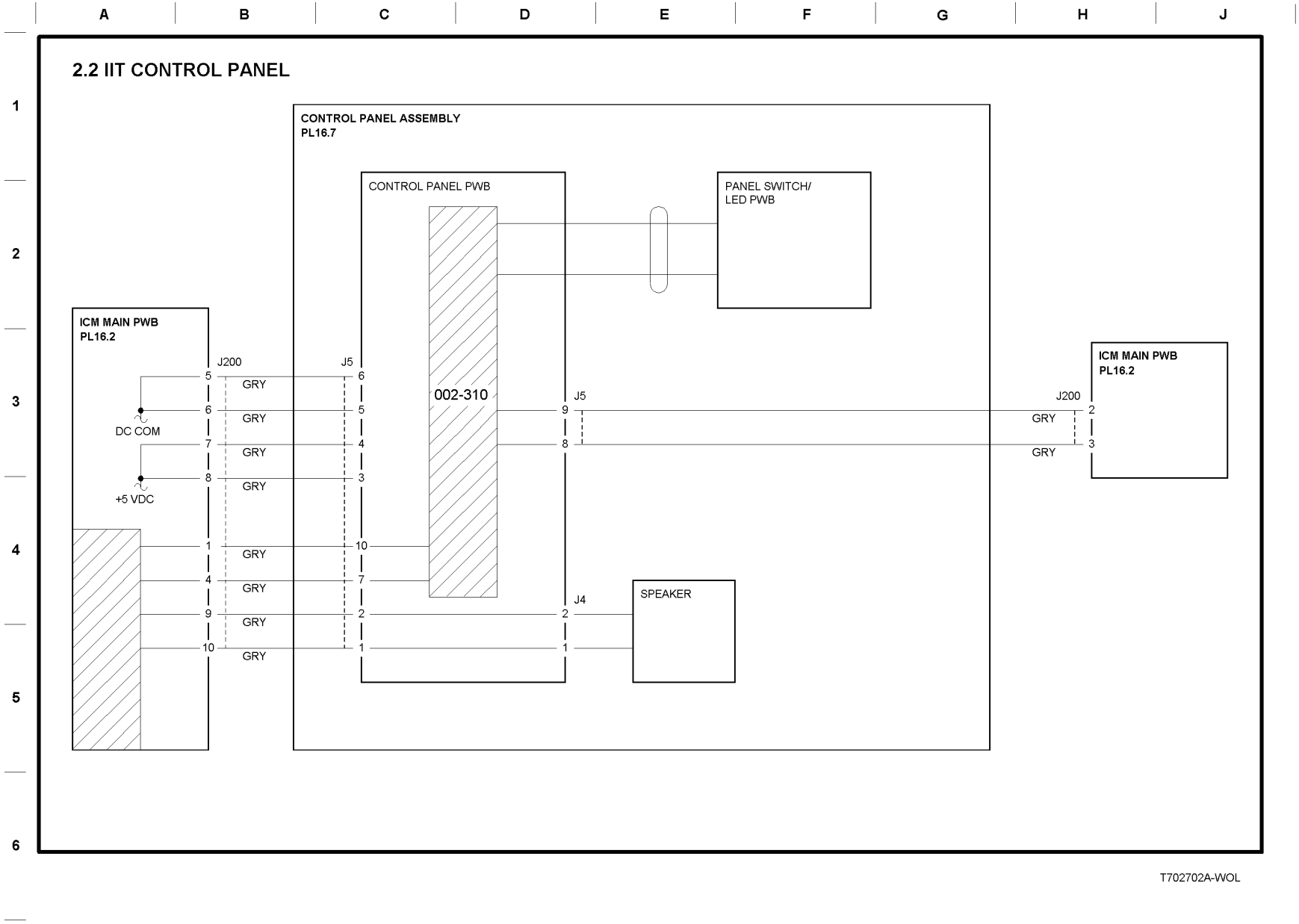



**Figure 1 IIT Control Panel**

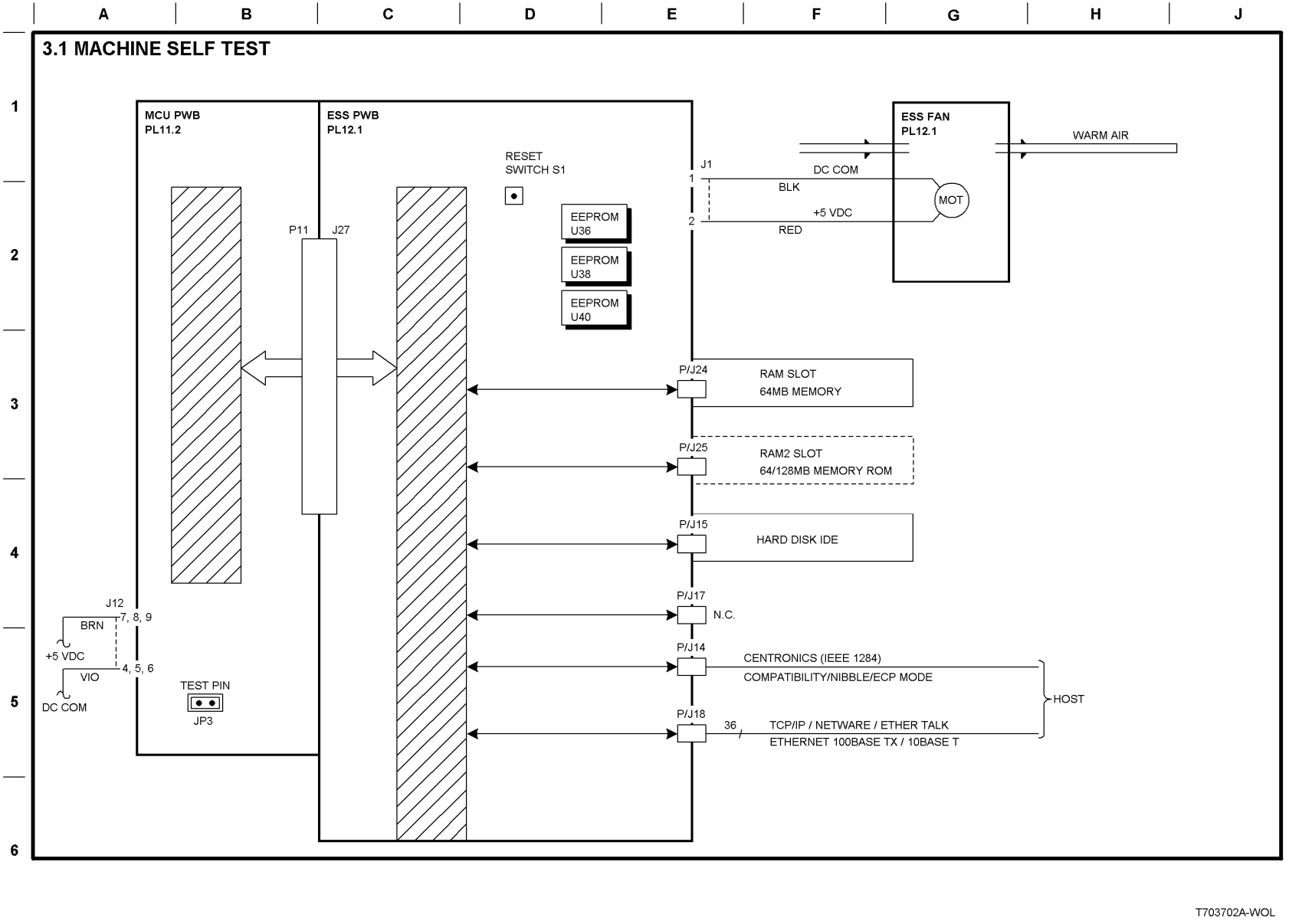



**Figure 1 Machine Self Test**

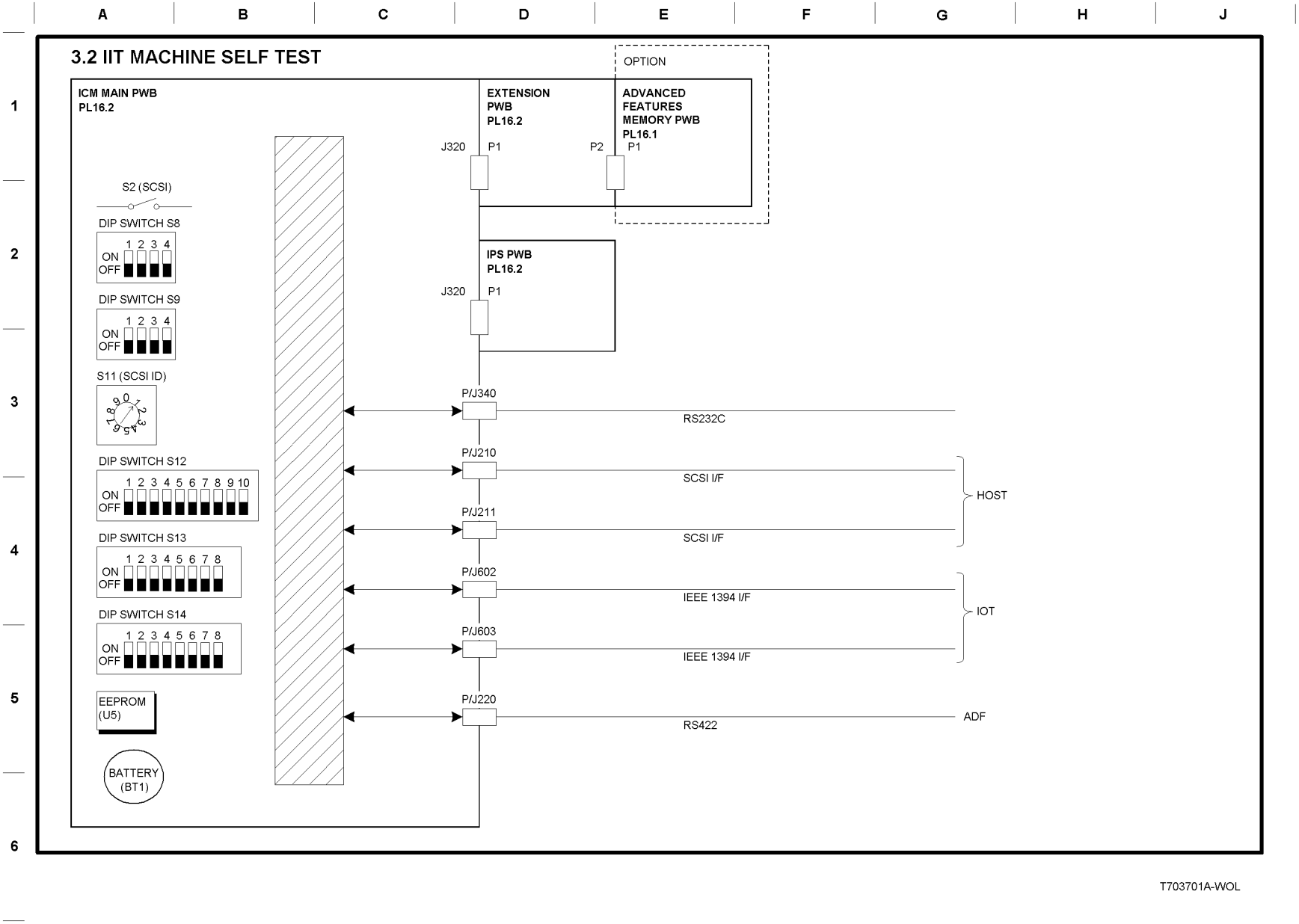



**Figure 1 IIT Machine Self Test**

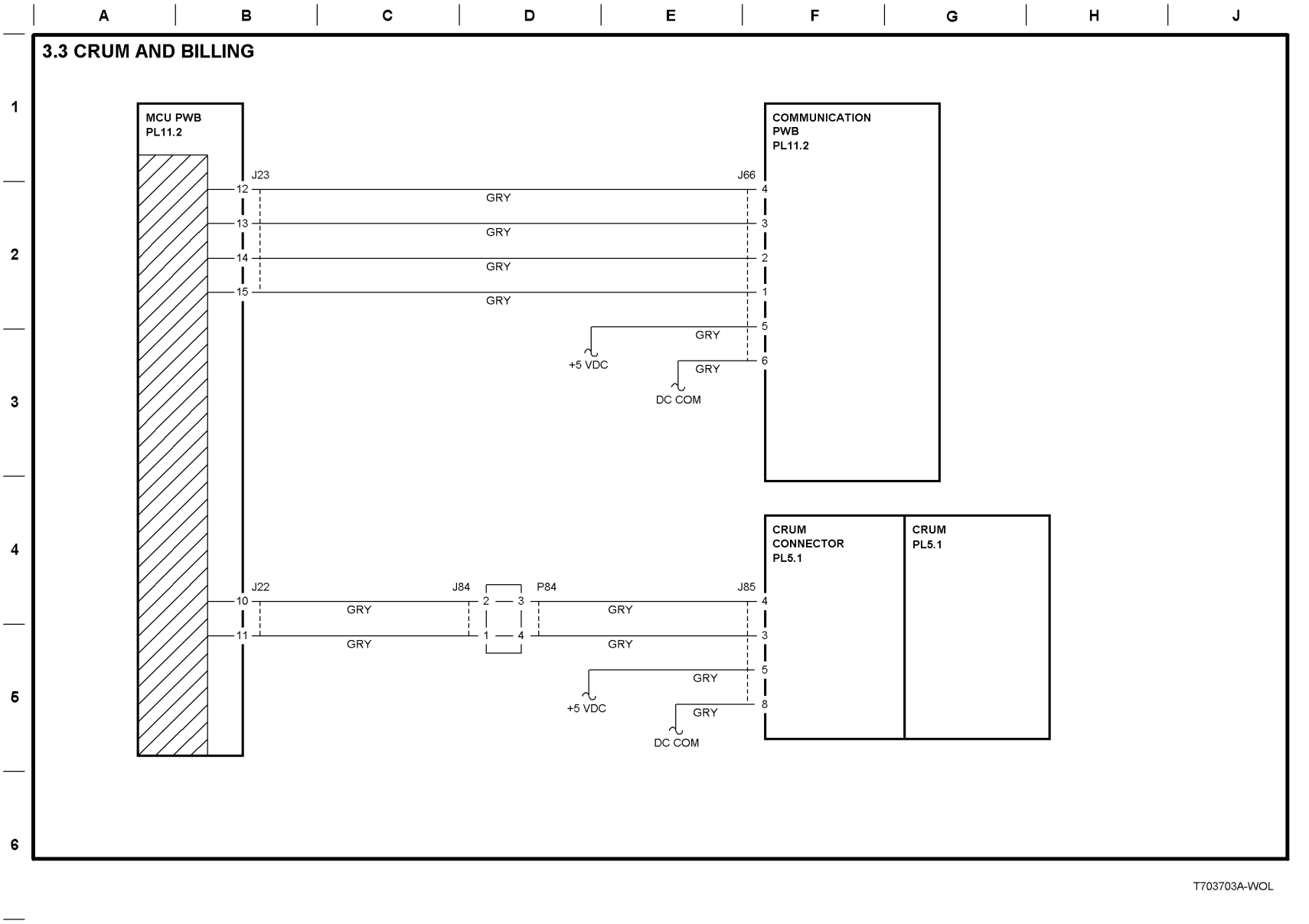



**Figure 1 CRUM and Billing**

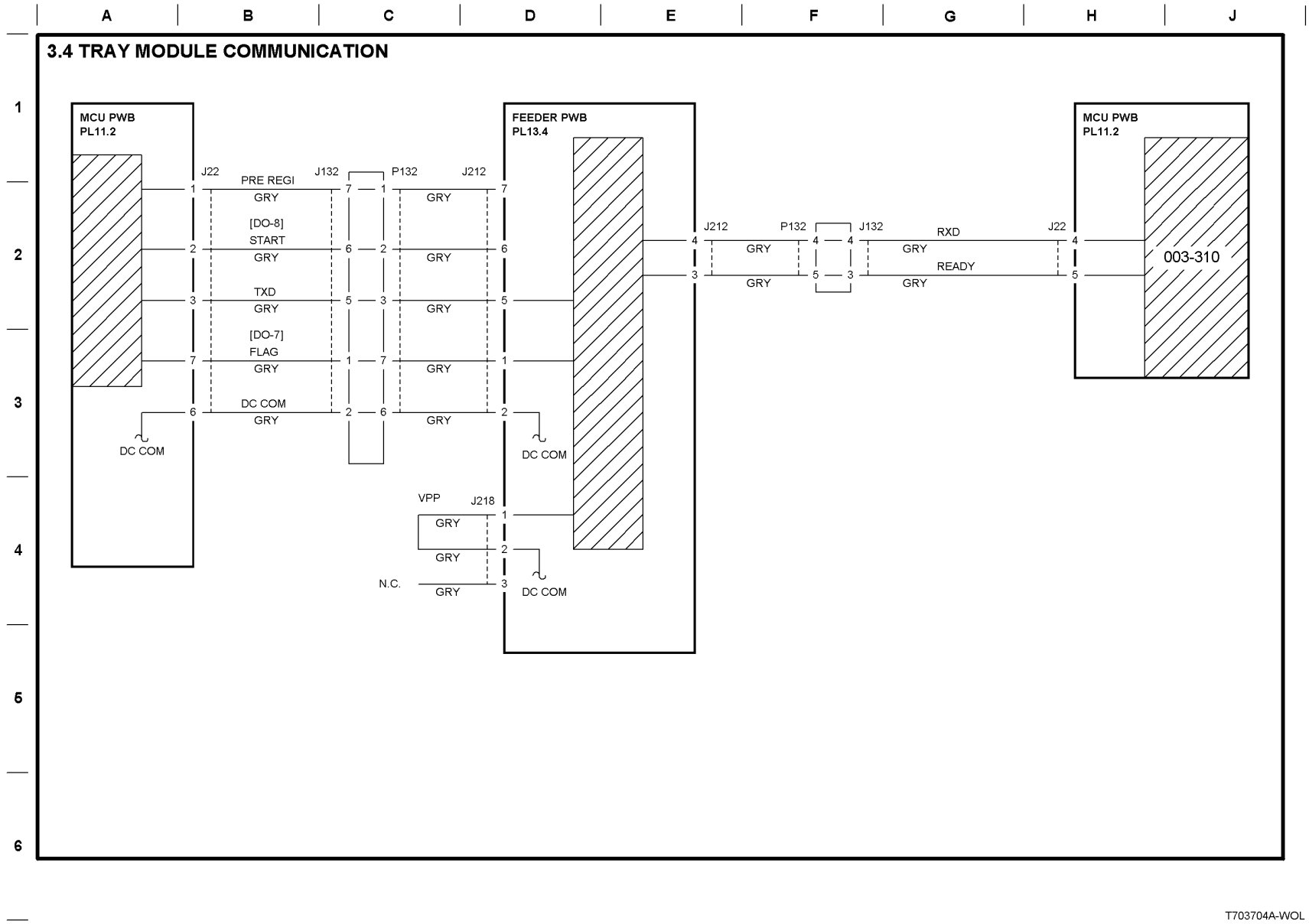



**Figure 1 Tray Module Communication**

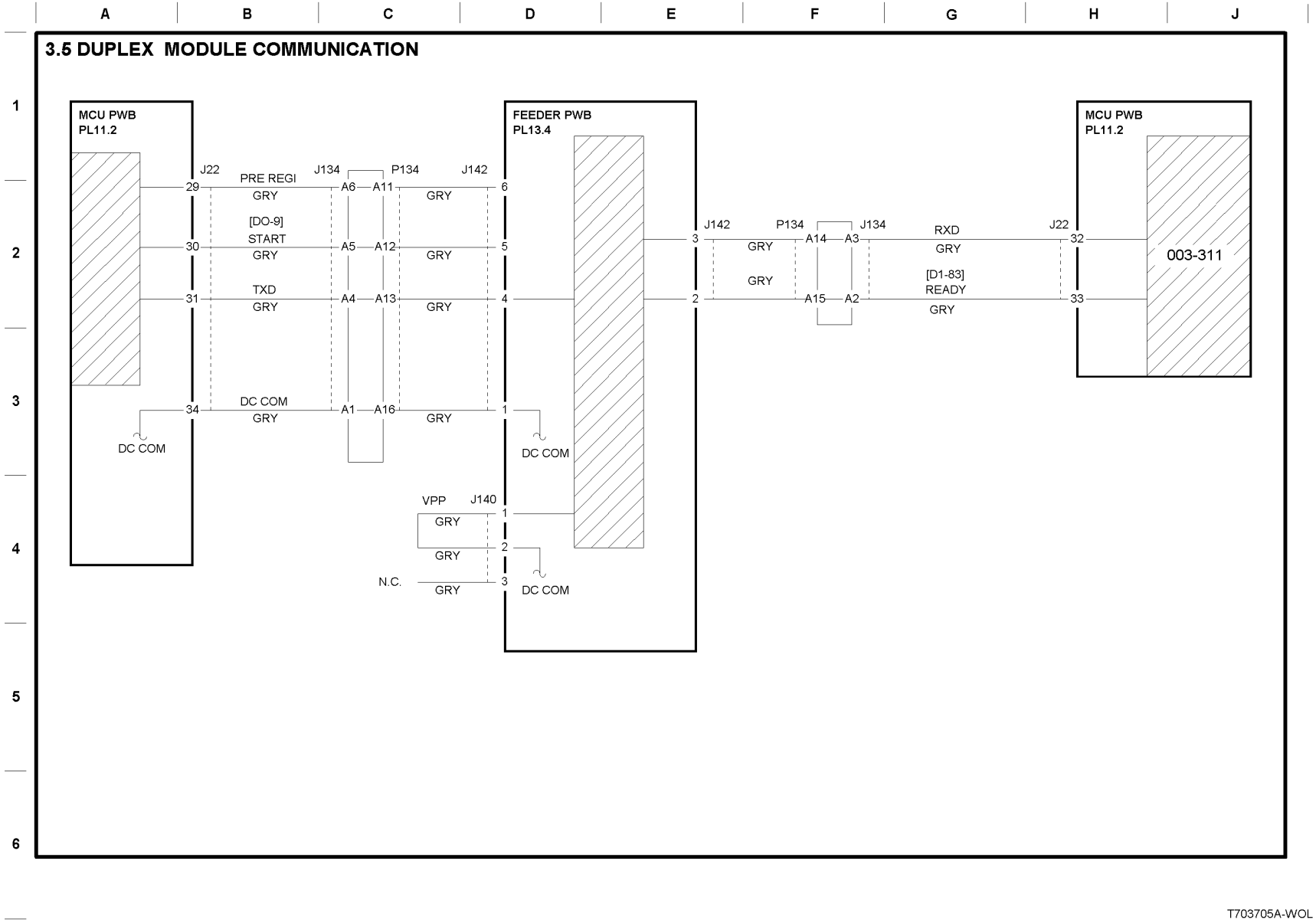



**Figure 1 Duplex Module Communication**

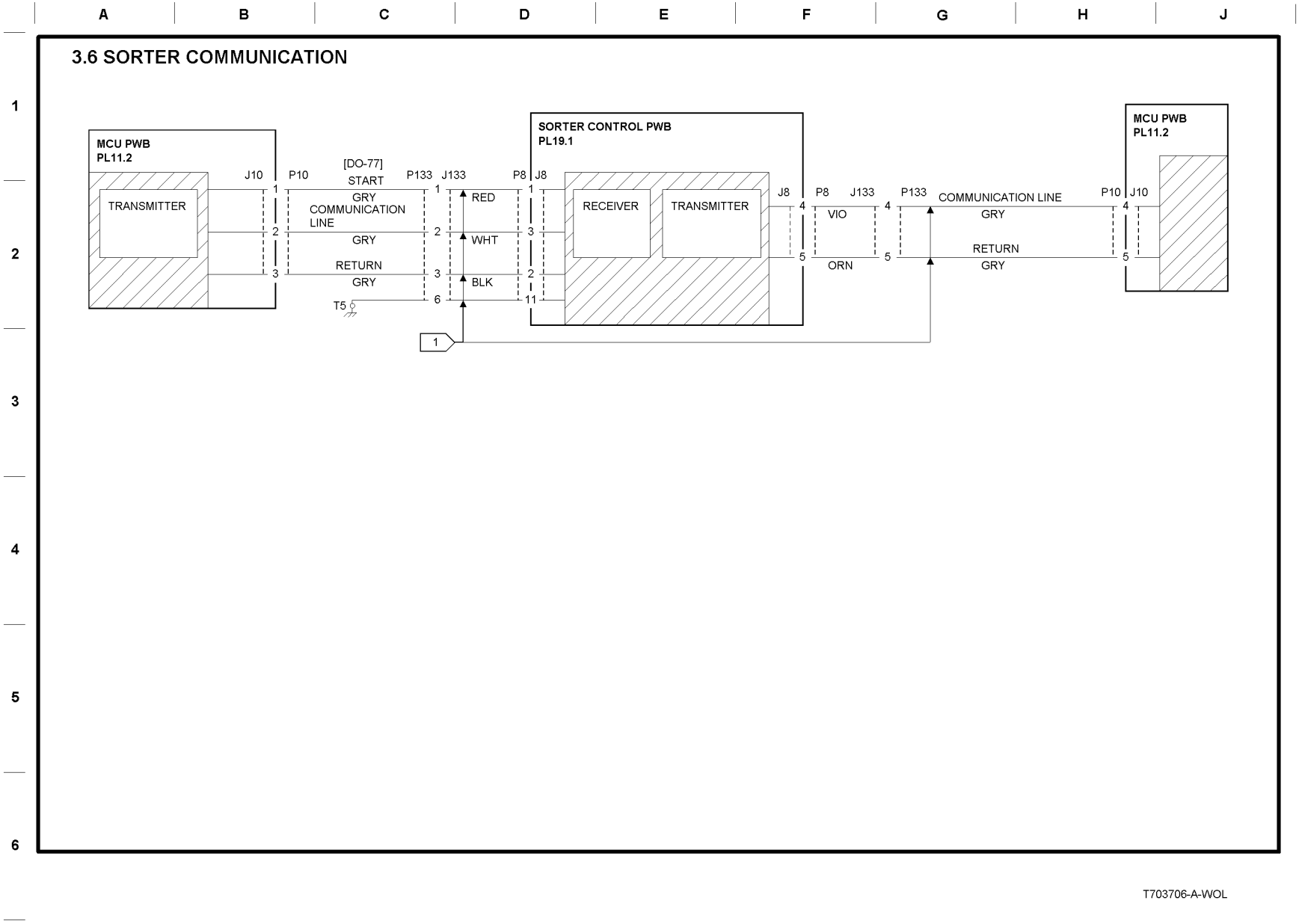



**Figure 1 BSD 3.6 Sorter Communication**

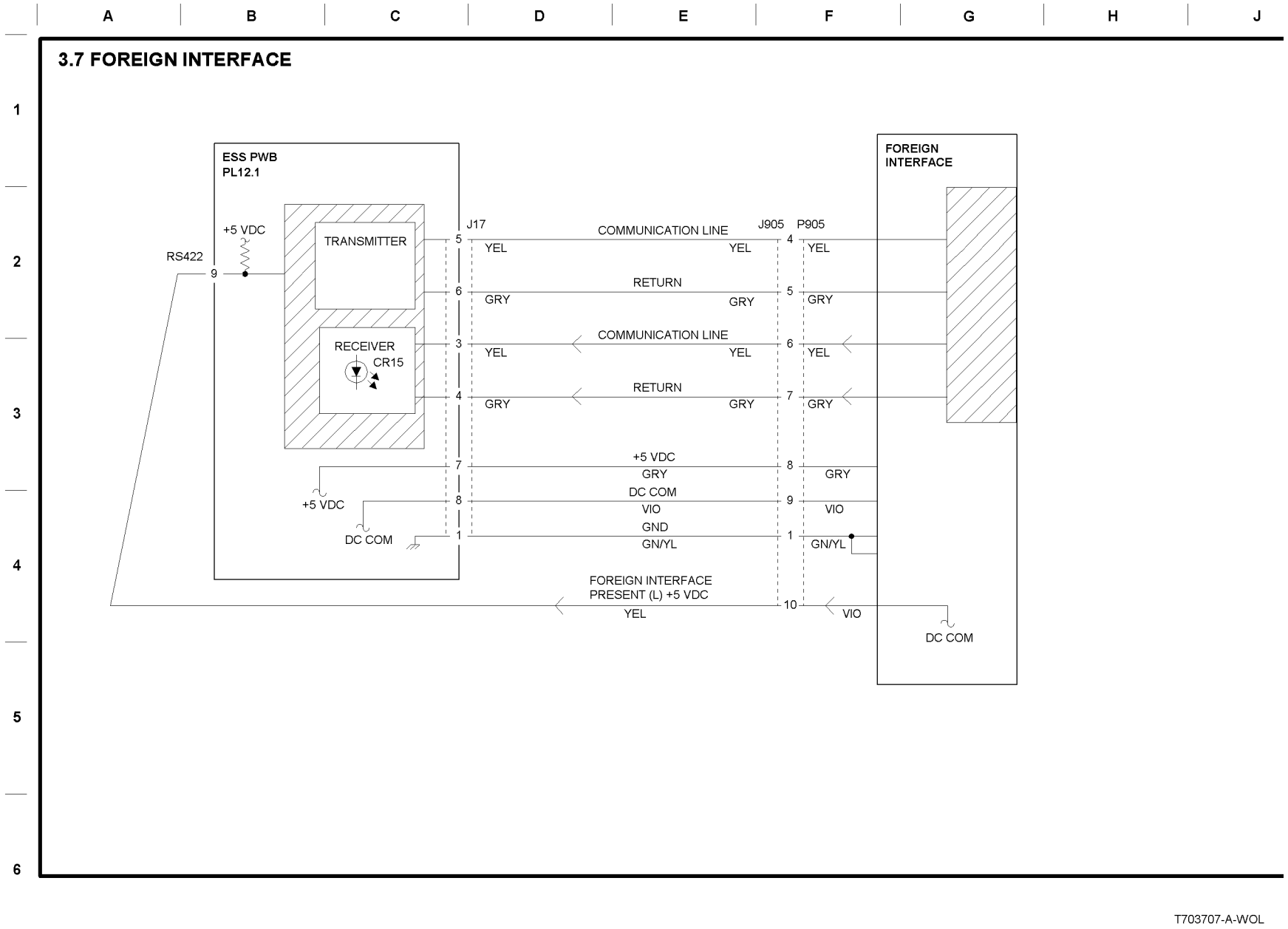



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**Figure 1 BSD 3.7 Foreign Interface**

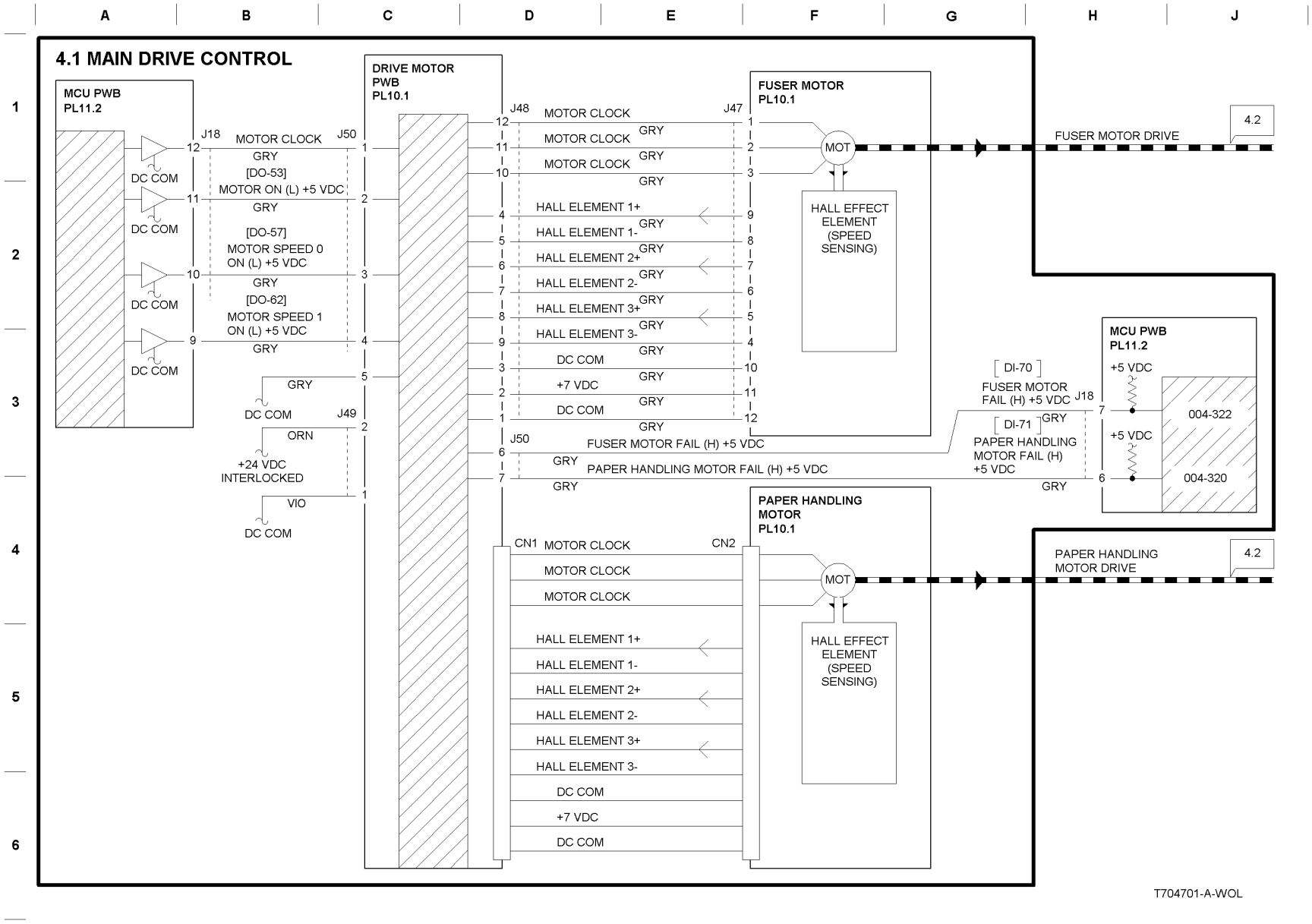


**Figure 1 BSD 4.1 Main Drive Control**

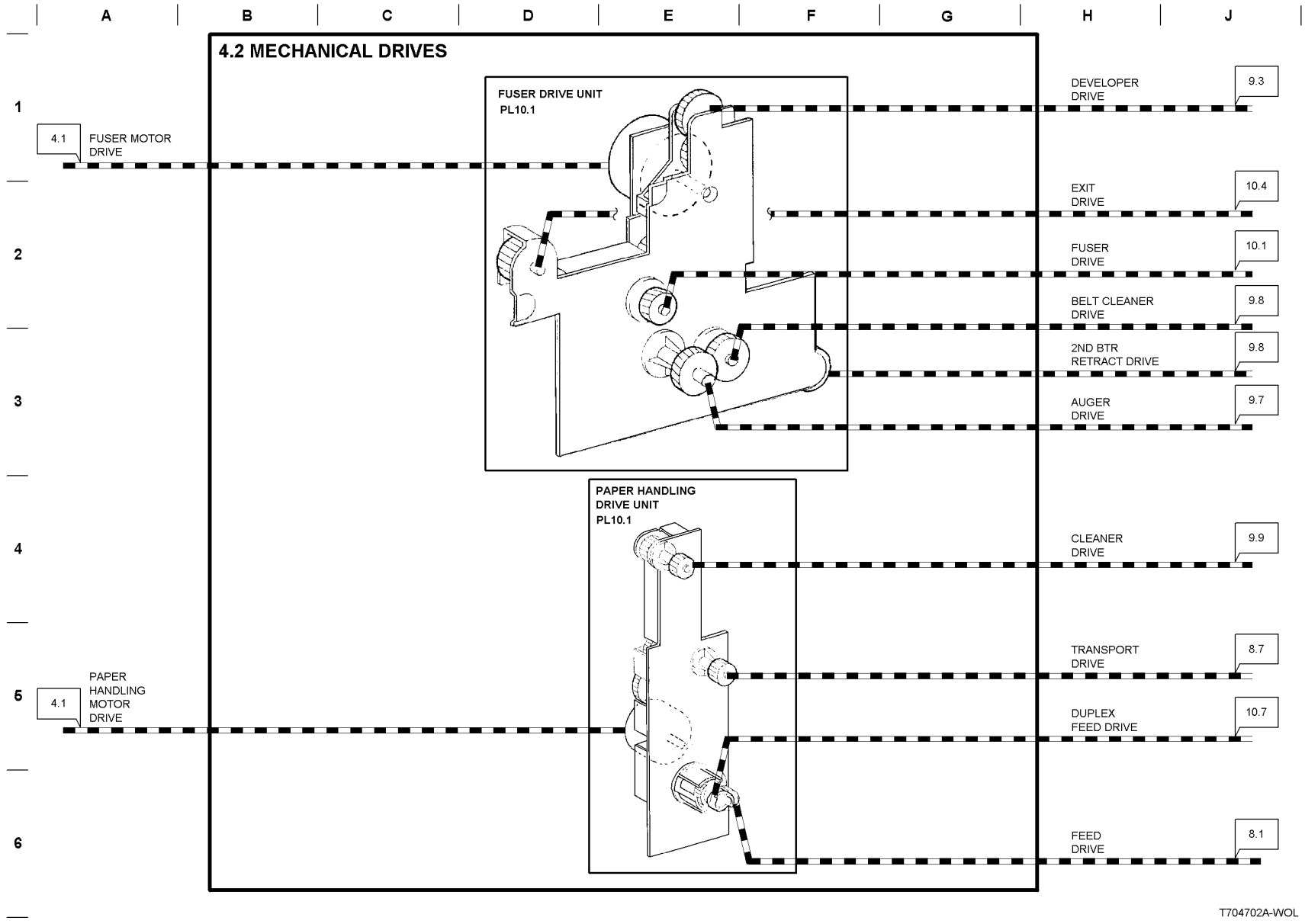


**Figure 1 Mechanical Drives**

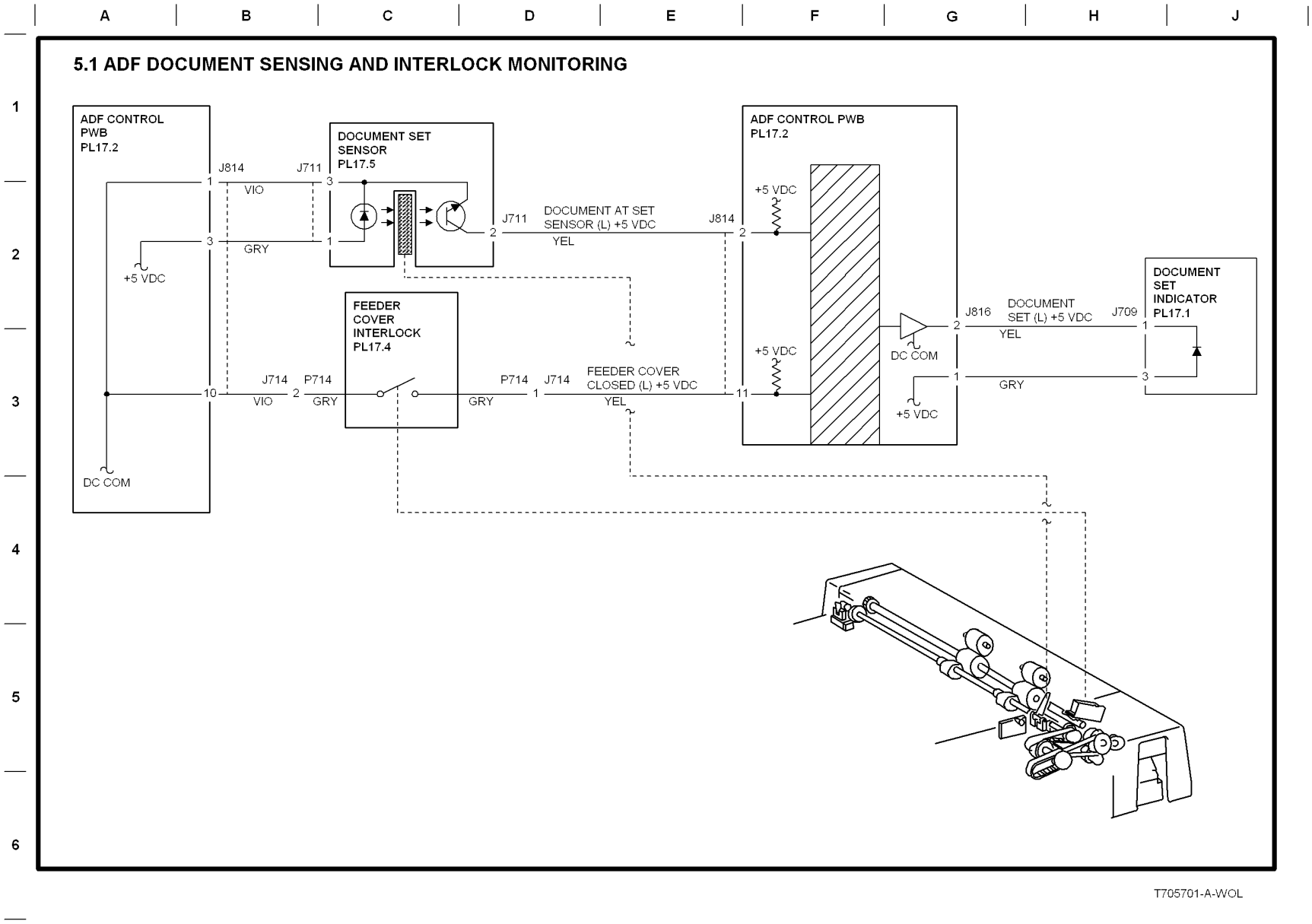


**Figure 1 ADF Document Sensing and Interlock Monitoring**

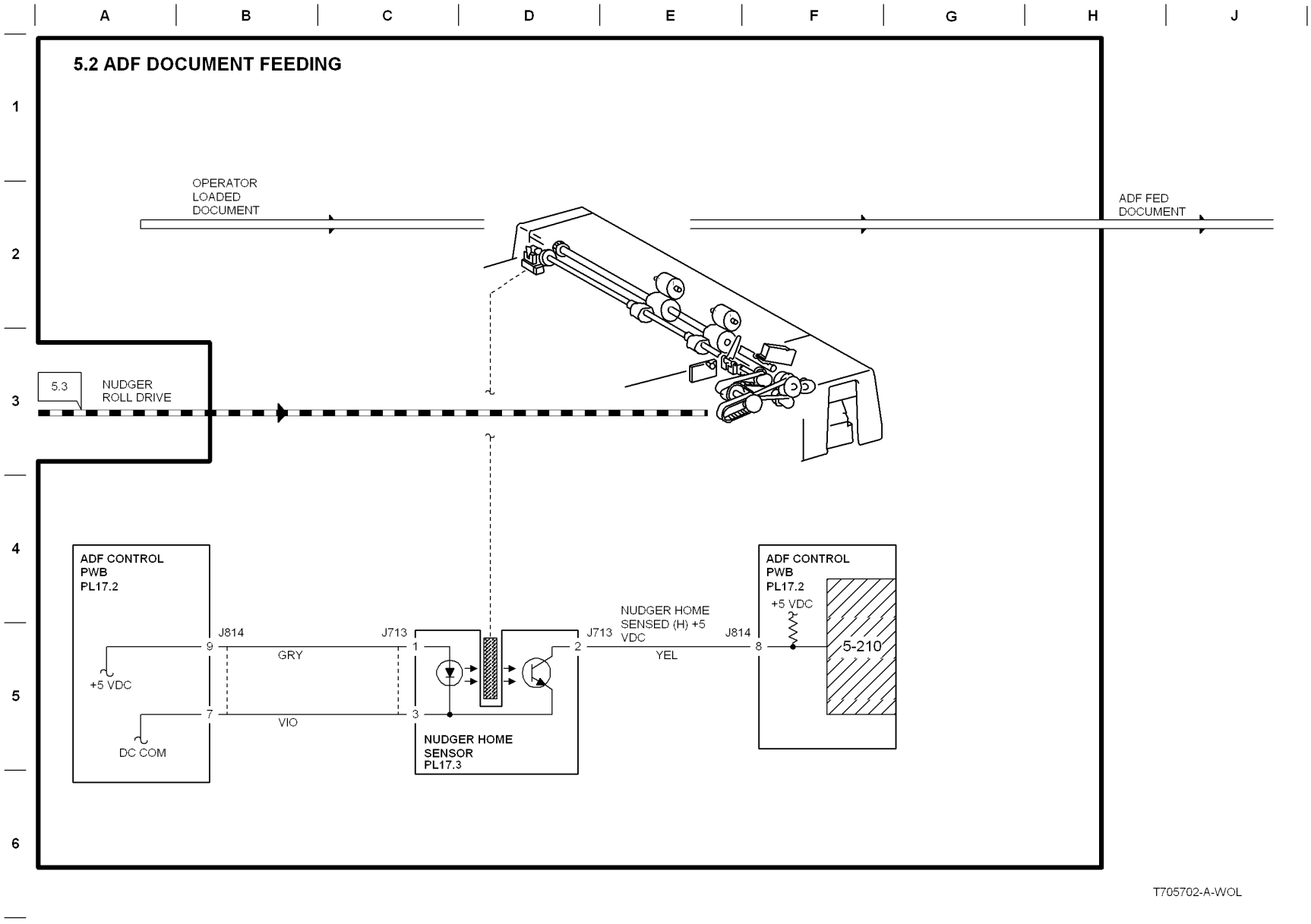


**Figure 1 ADF Document Feeding**

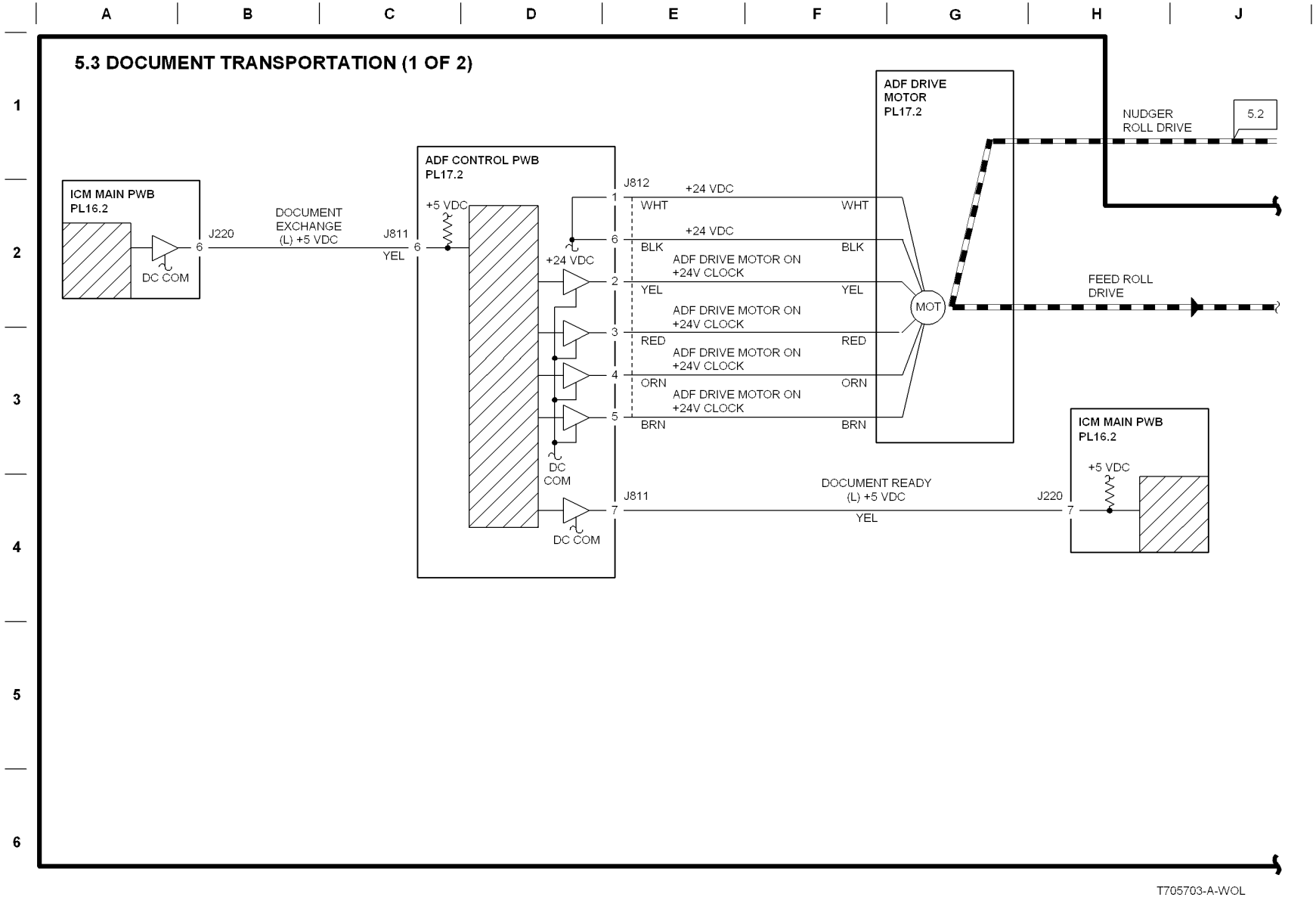


**Figure 1 Document Transportation (1 of 2)**

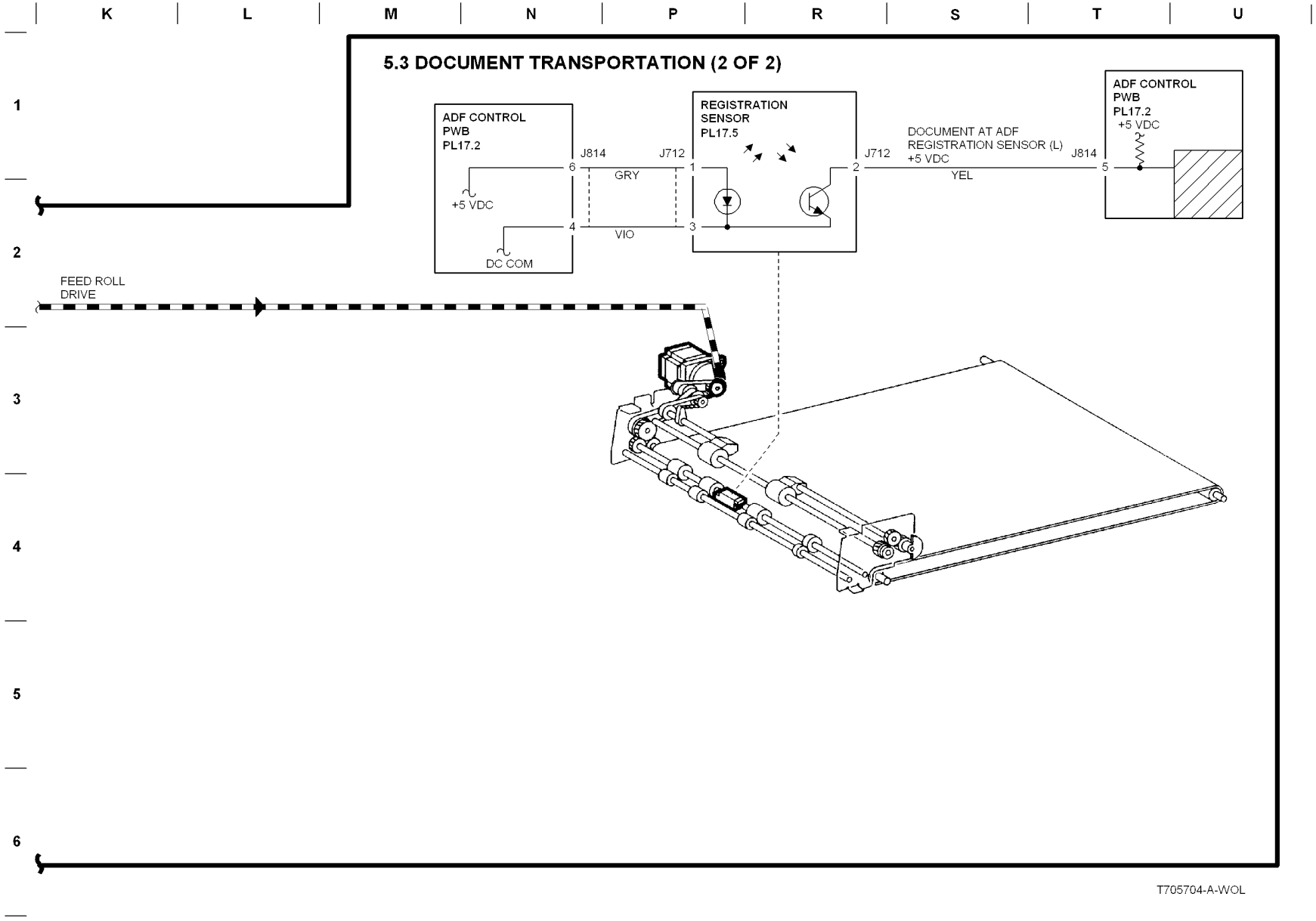


**Figure 1 Document Transportation (2 of 2)**

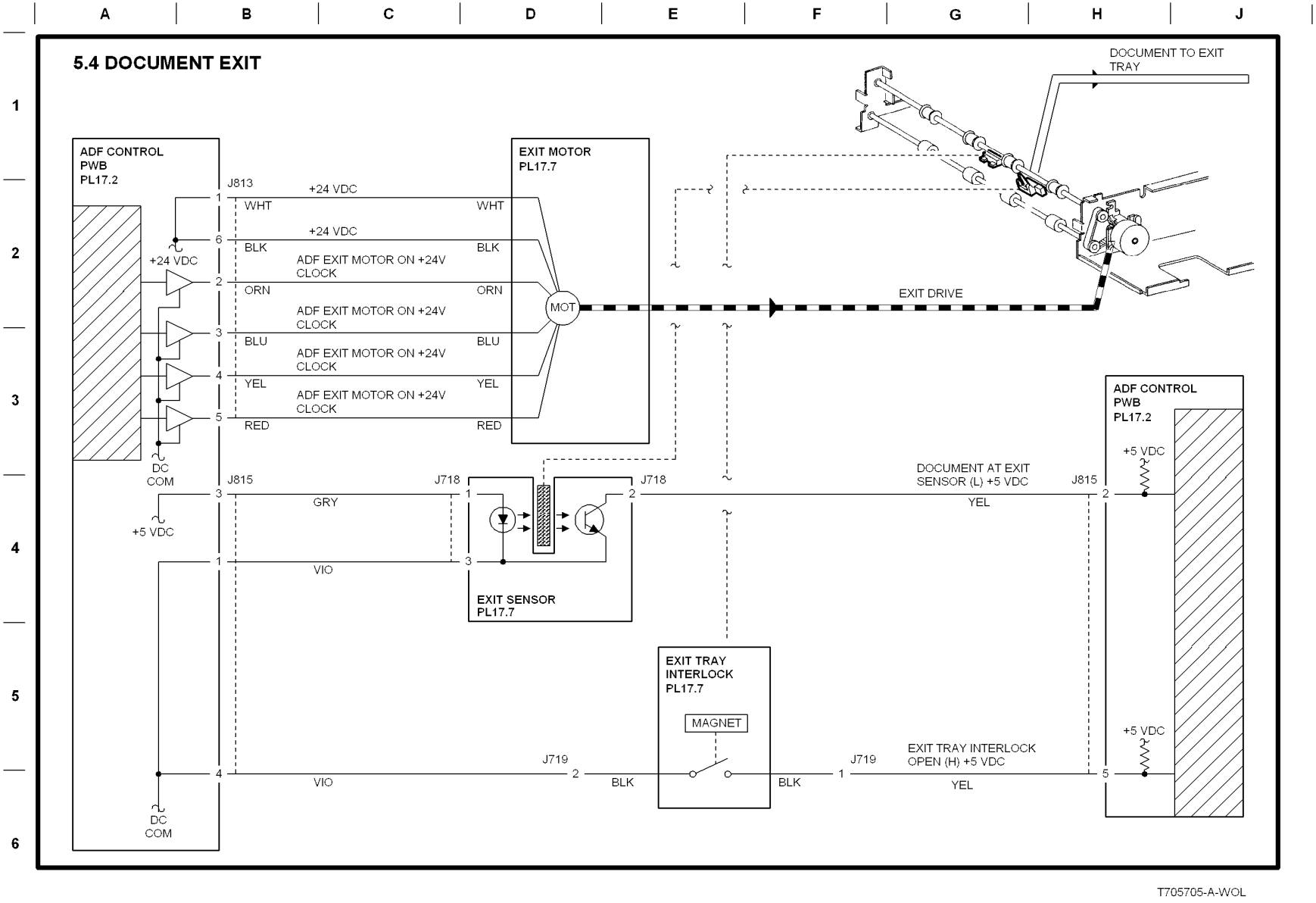


**Figure 1 Document Exit**

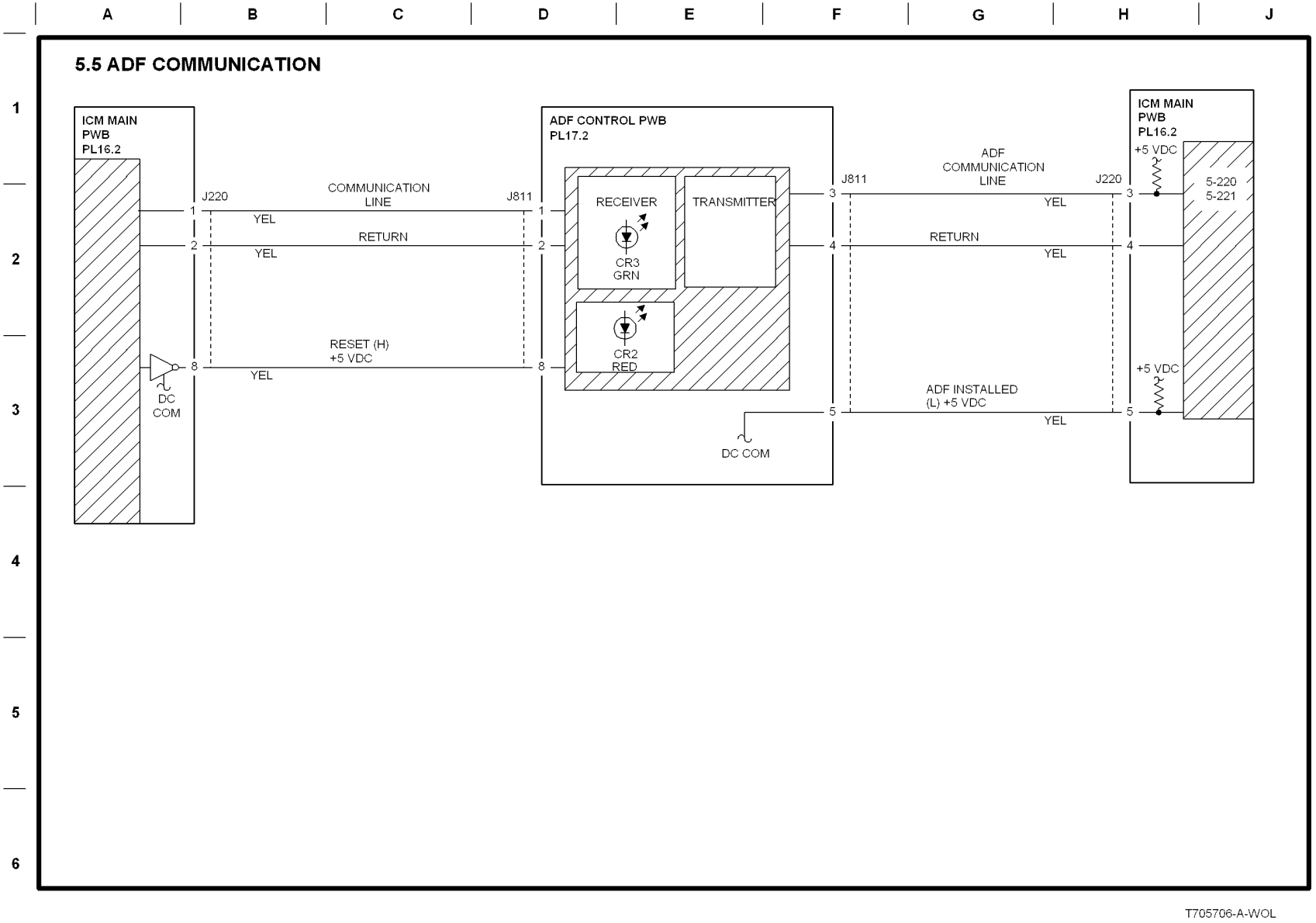


**Figure 1 ADF Communication**

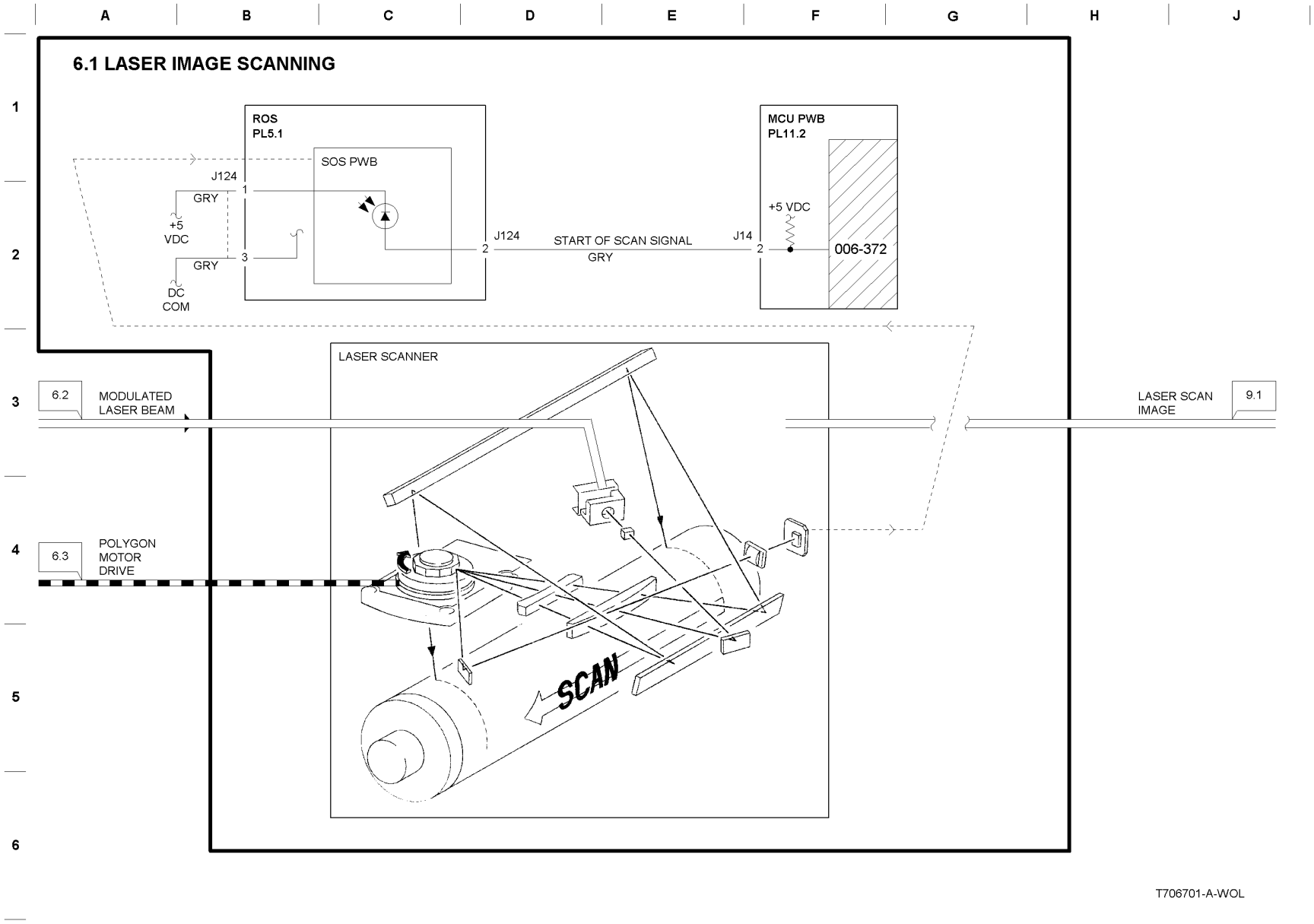


**Figure 1 Laser Image Scanning**

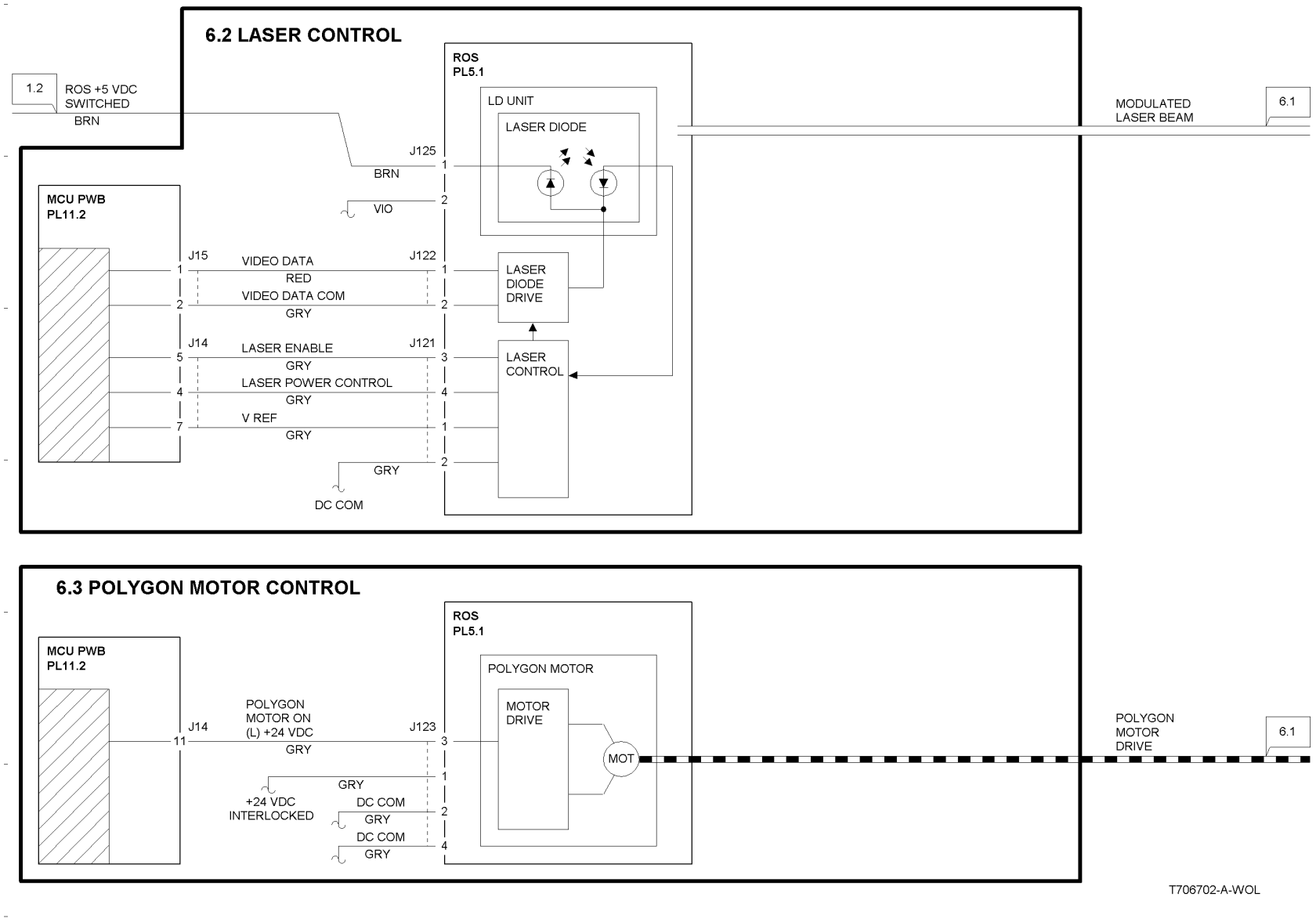


**Figure 1 Laser Control/Polygon Motor Control**

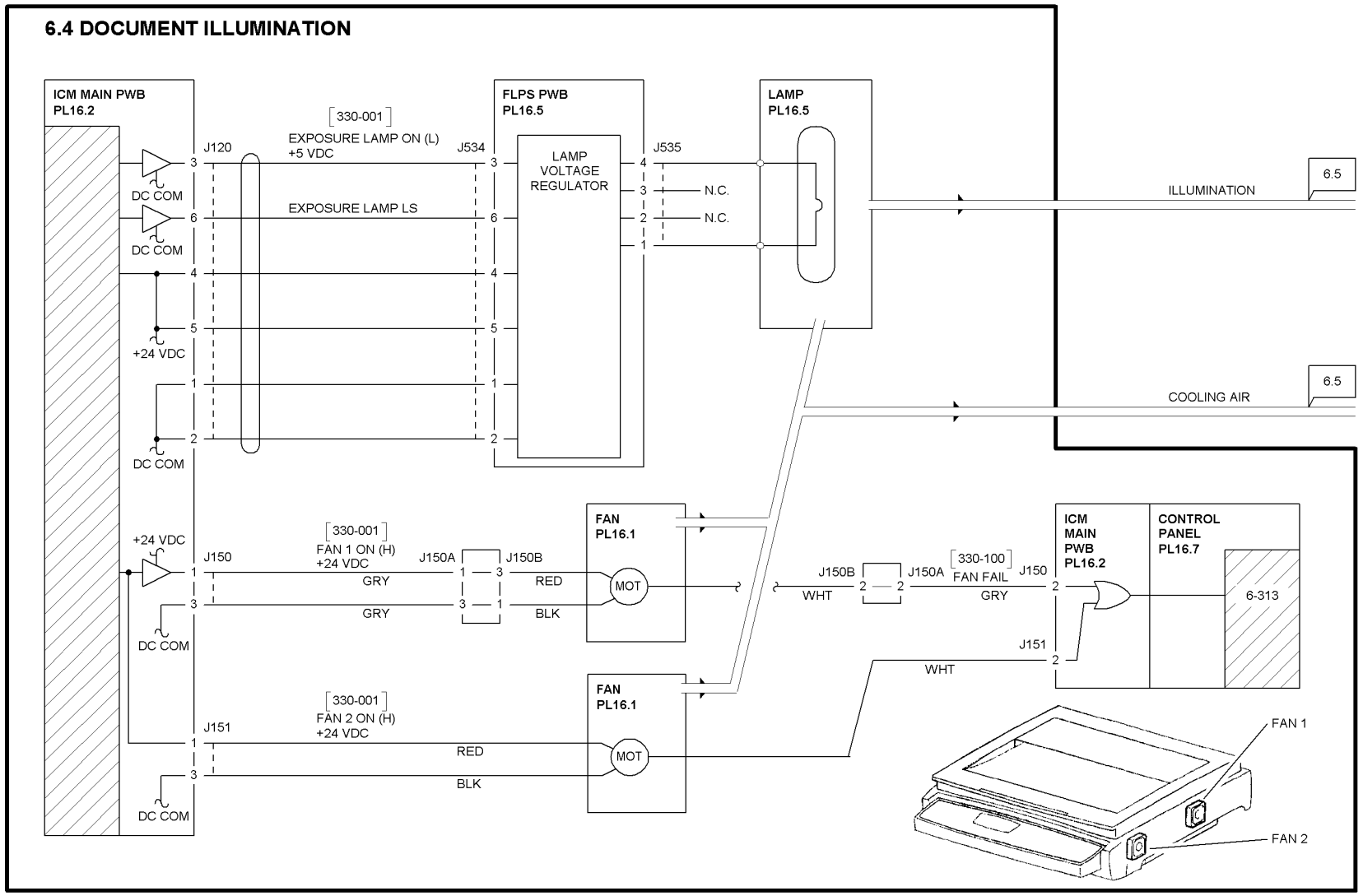


**Figure 1 Document Illumination**

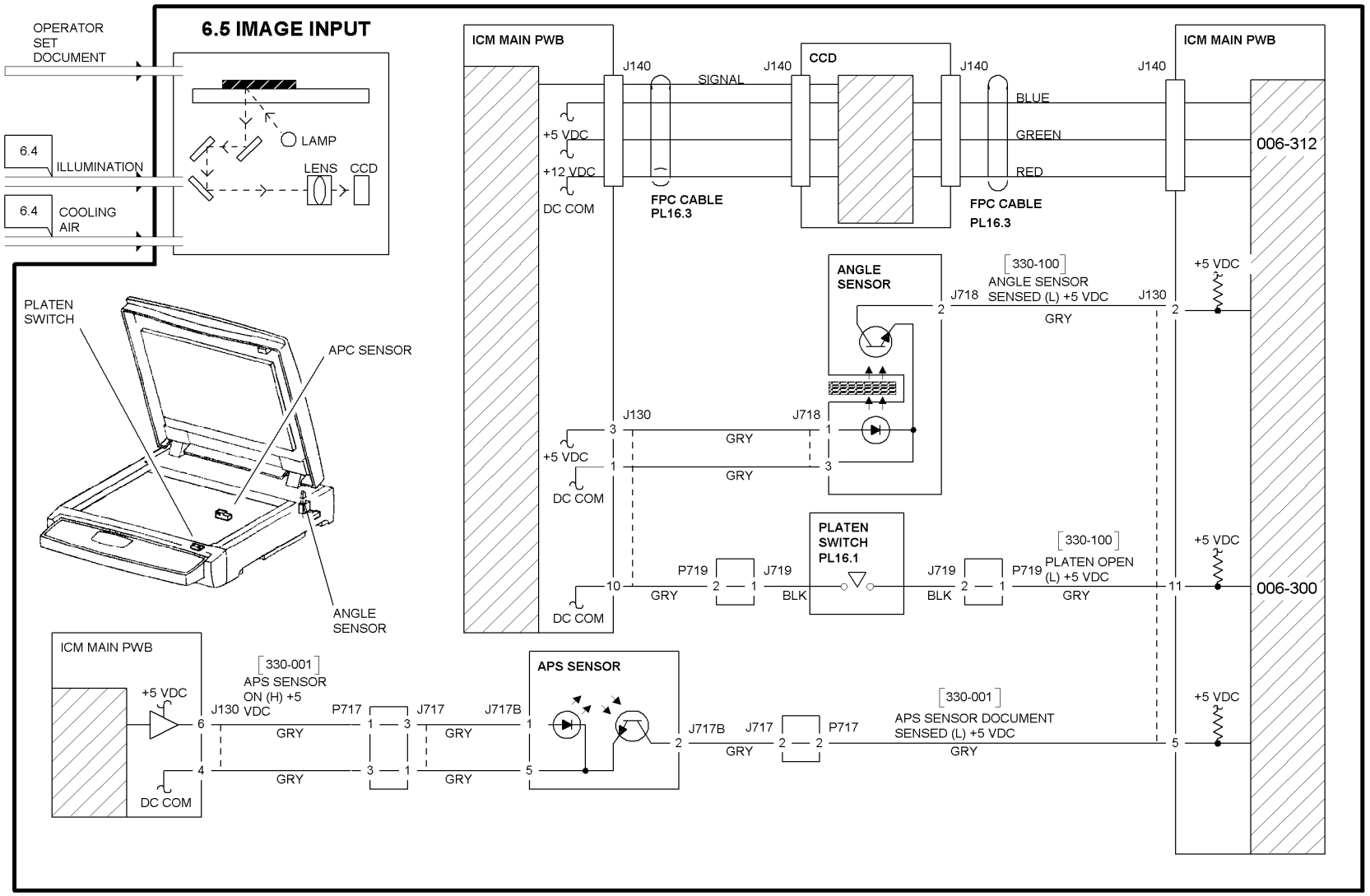


**Figure 1 Image Input**

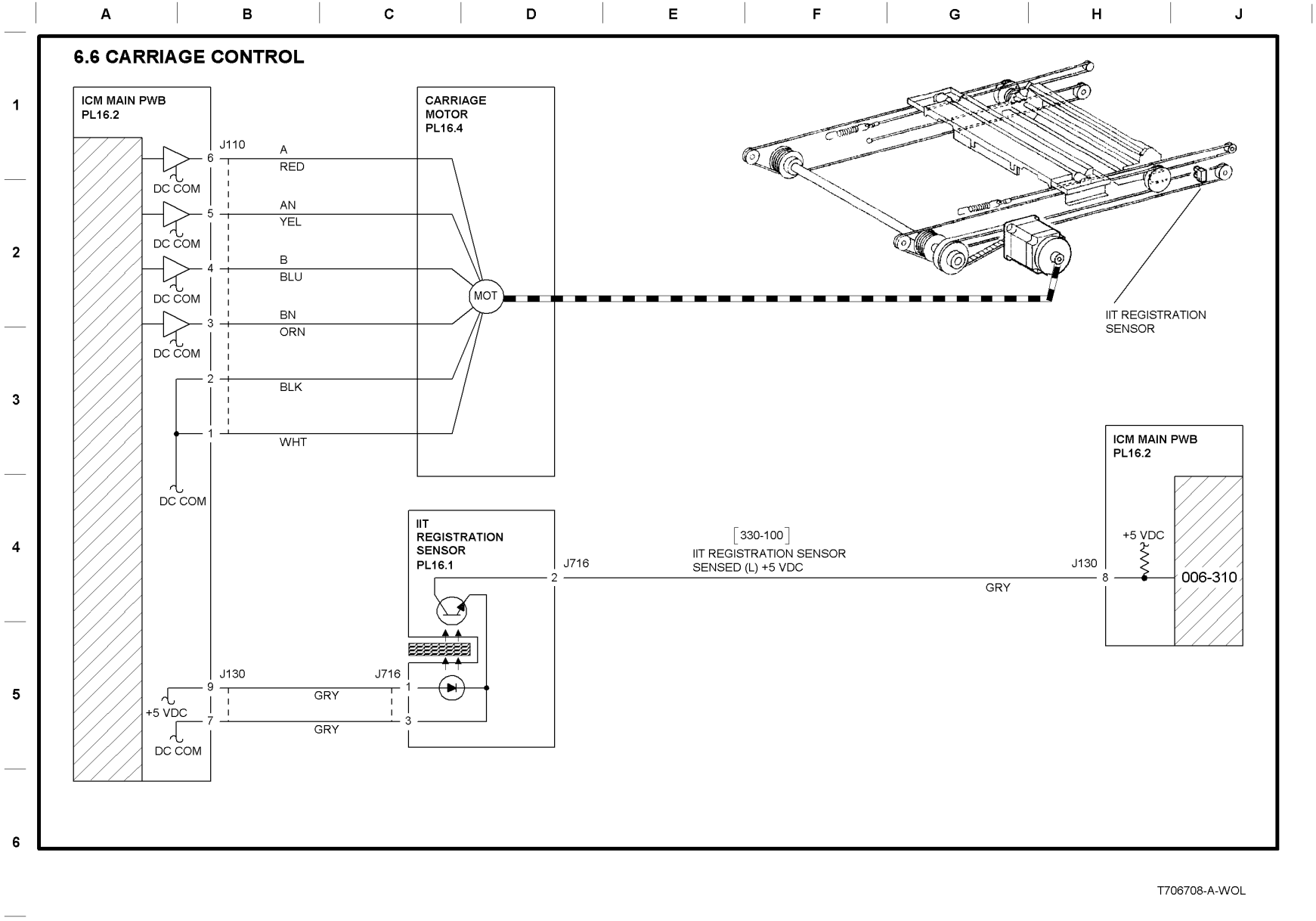


**Figure 1 Carriage Control**

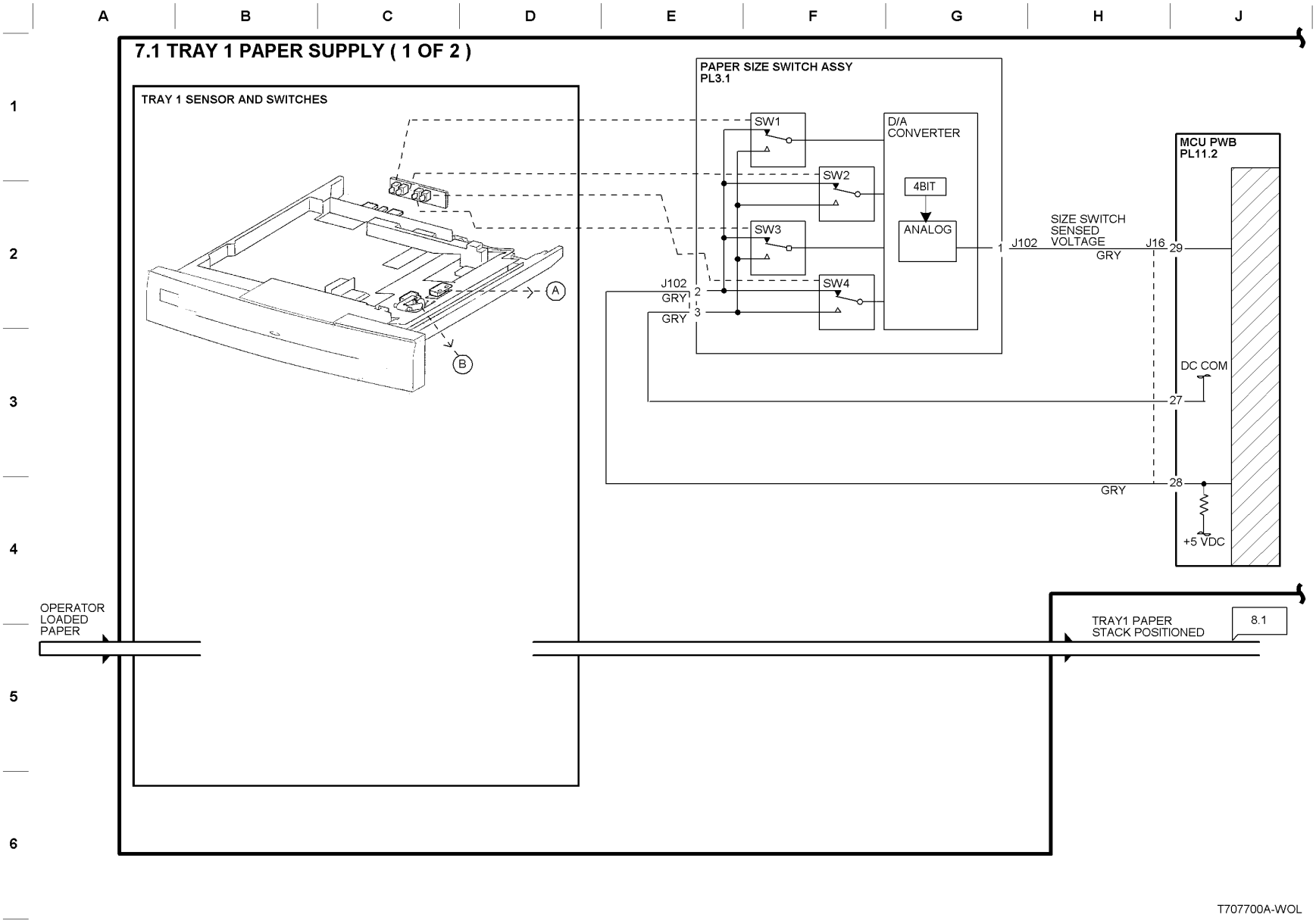


**Figure 1 Tray 1 Paper Supply (1 of 2)**

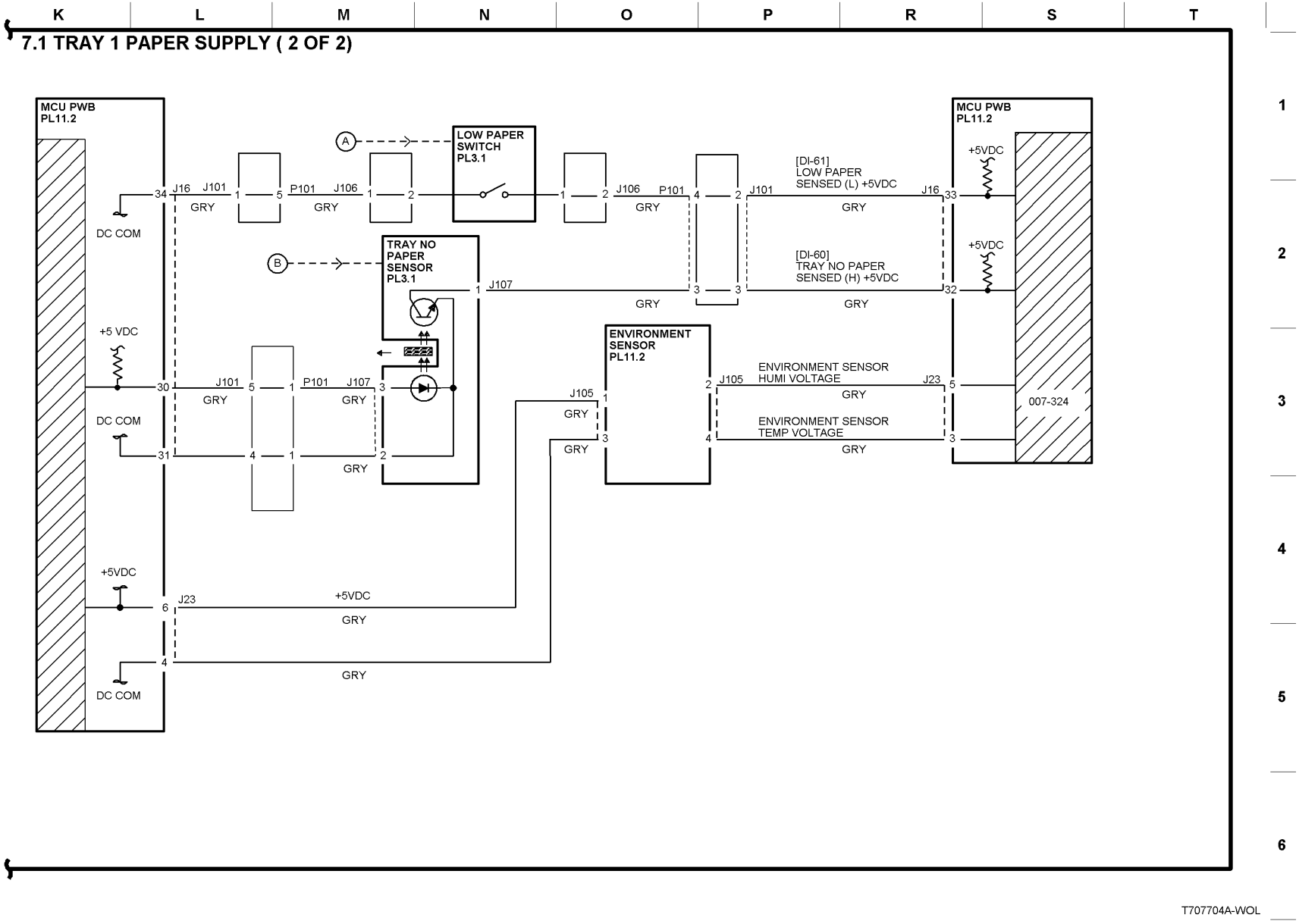


**Figure 1 Tray 1 Paper Supply (2 of 2)**

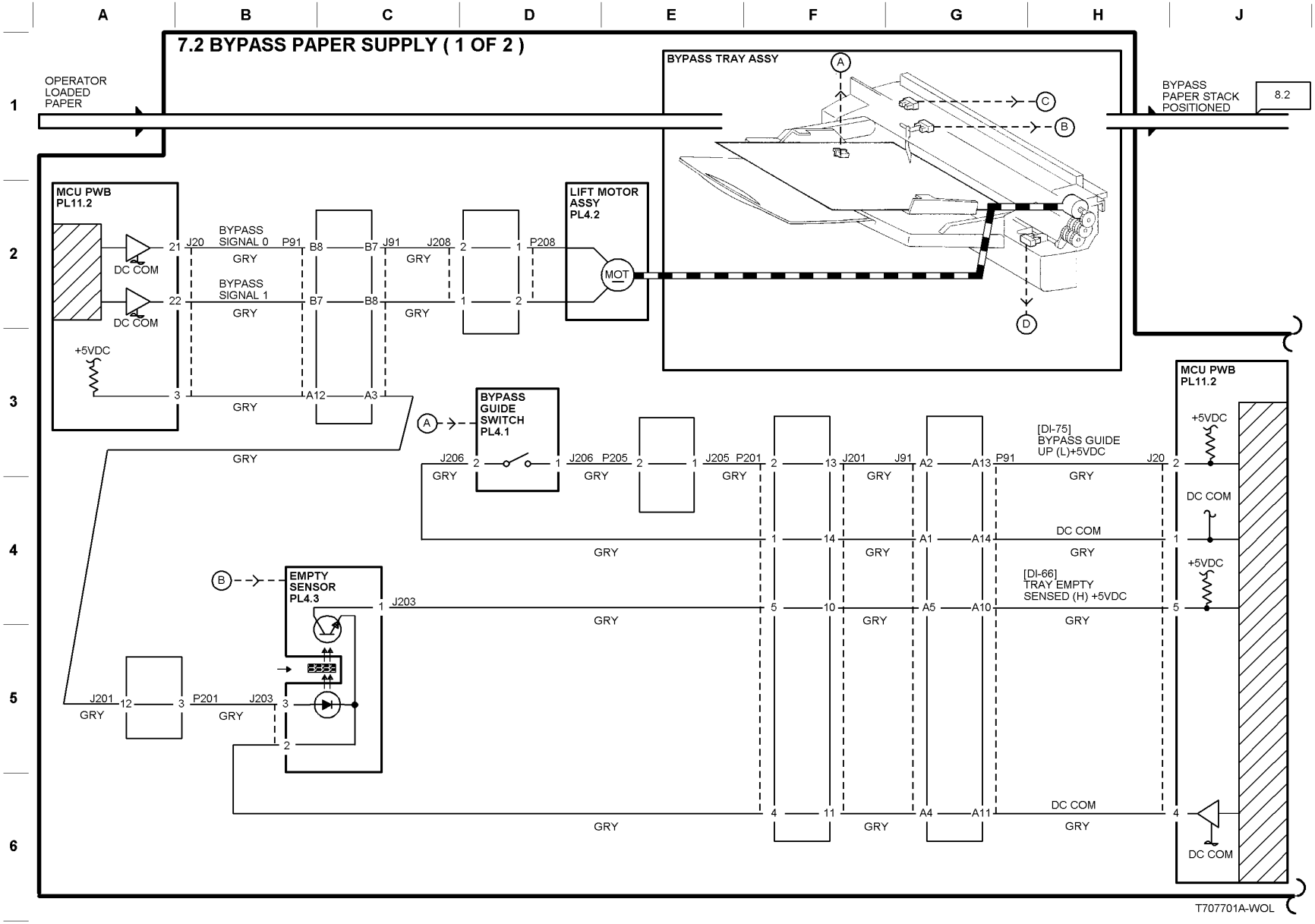


**Figure 1 Bypass Paper Supply (1 of 2)**

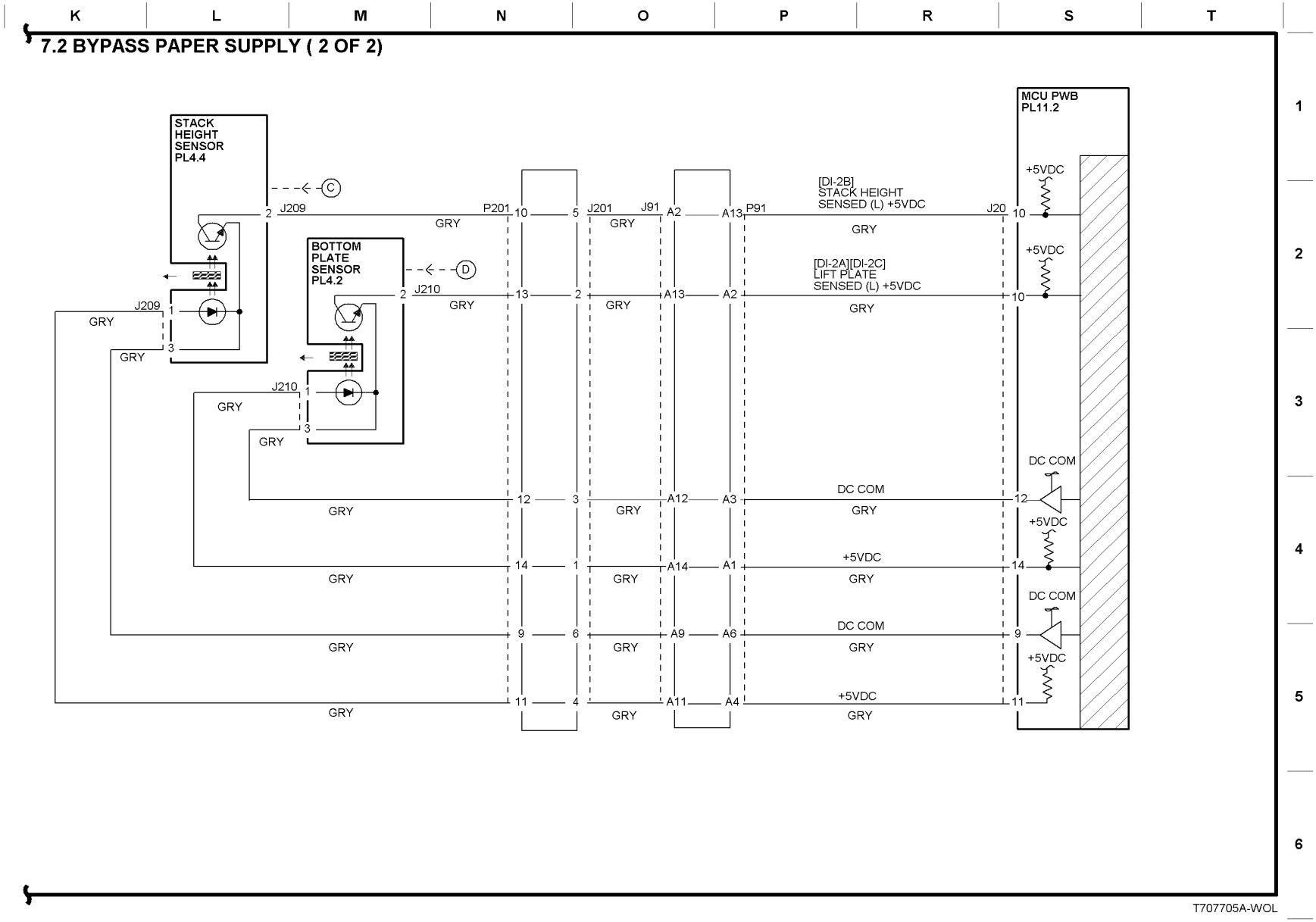


**Figure 1 Bypass Paper Supply (2 of 2)**

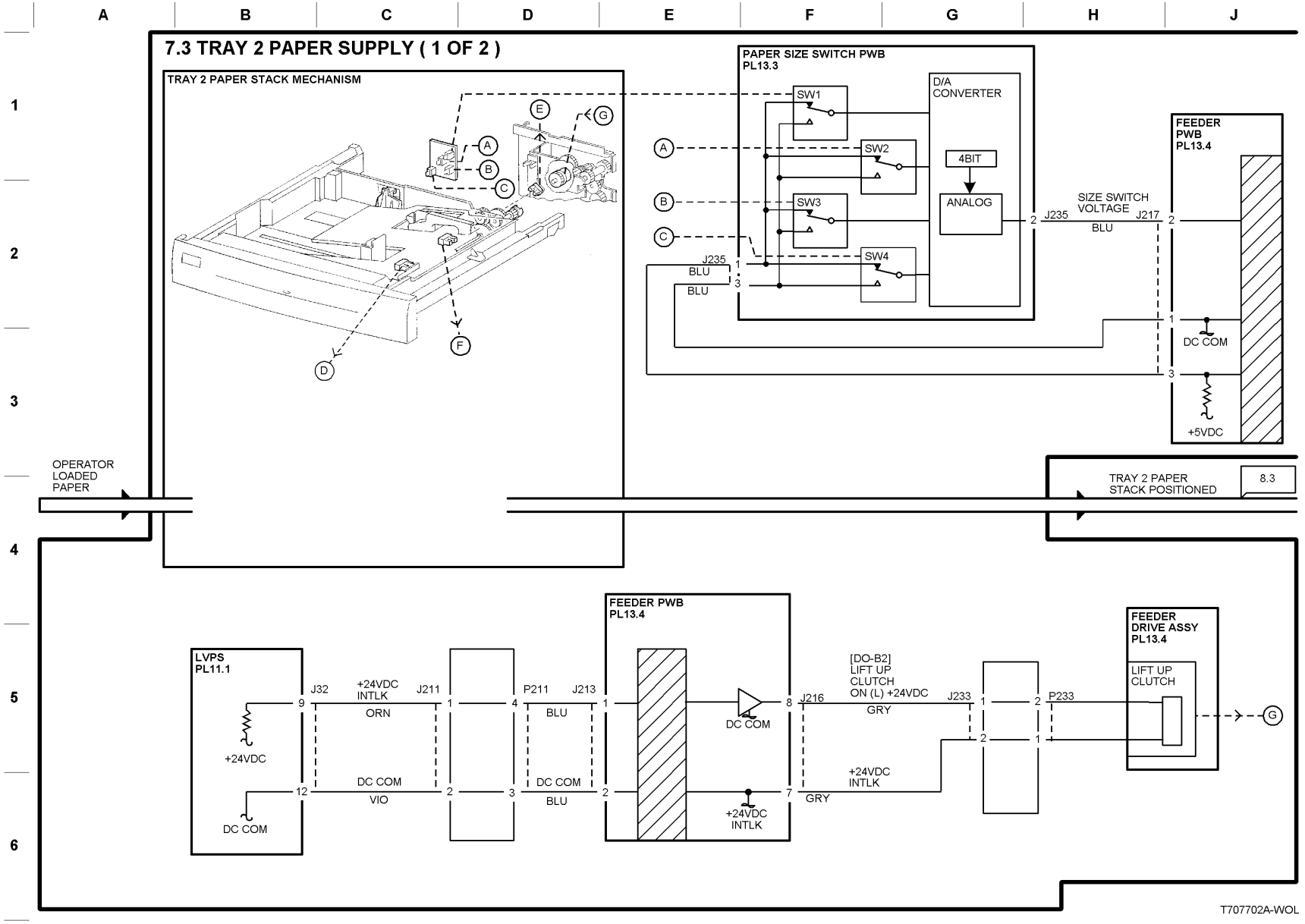


**Figure 1 Tray 2 Paper Supply (1 of 2)**

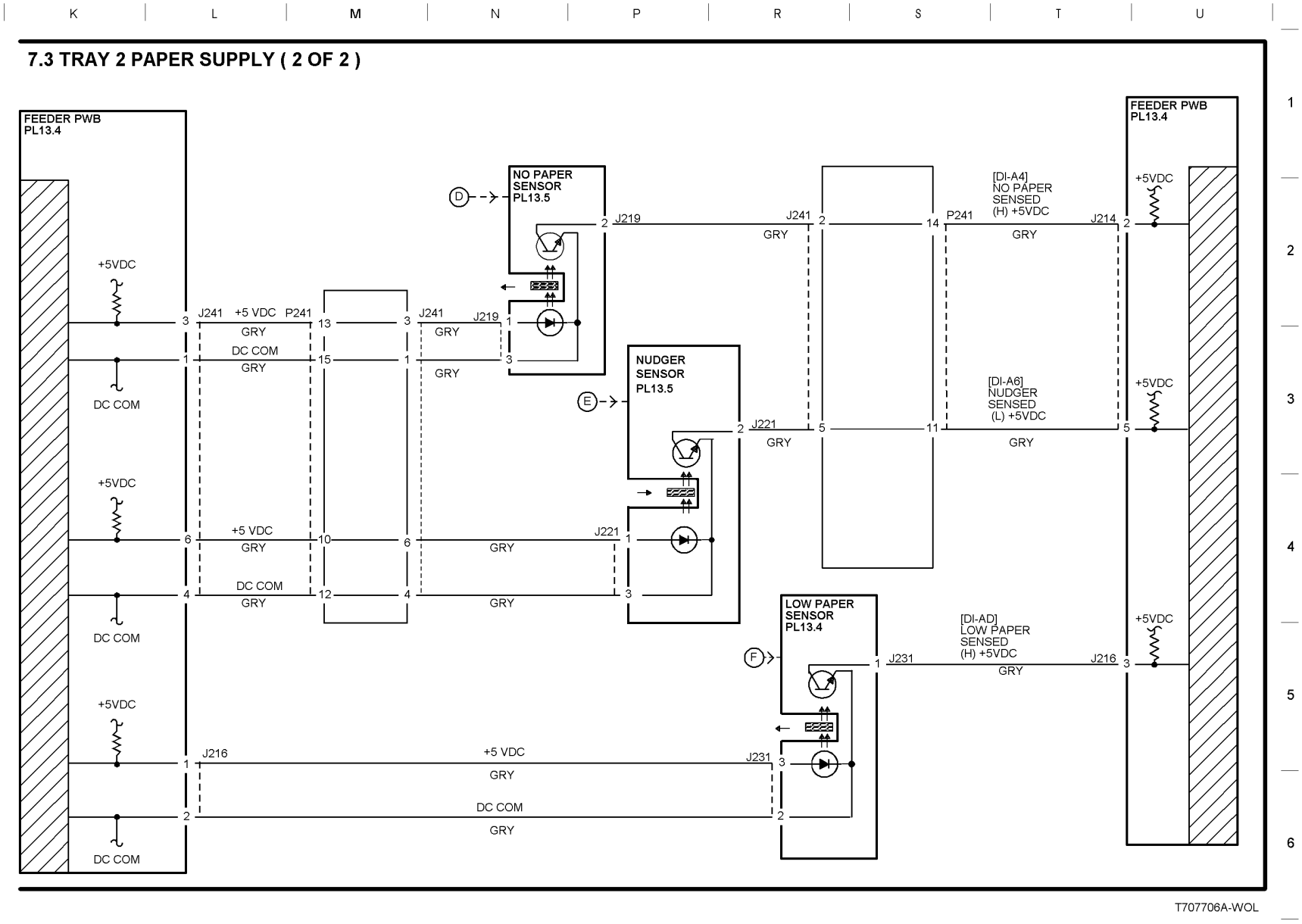


**Figure 1 Tray 2 Paper Supply (2 of 2)**

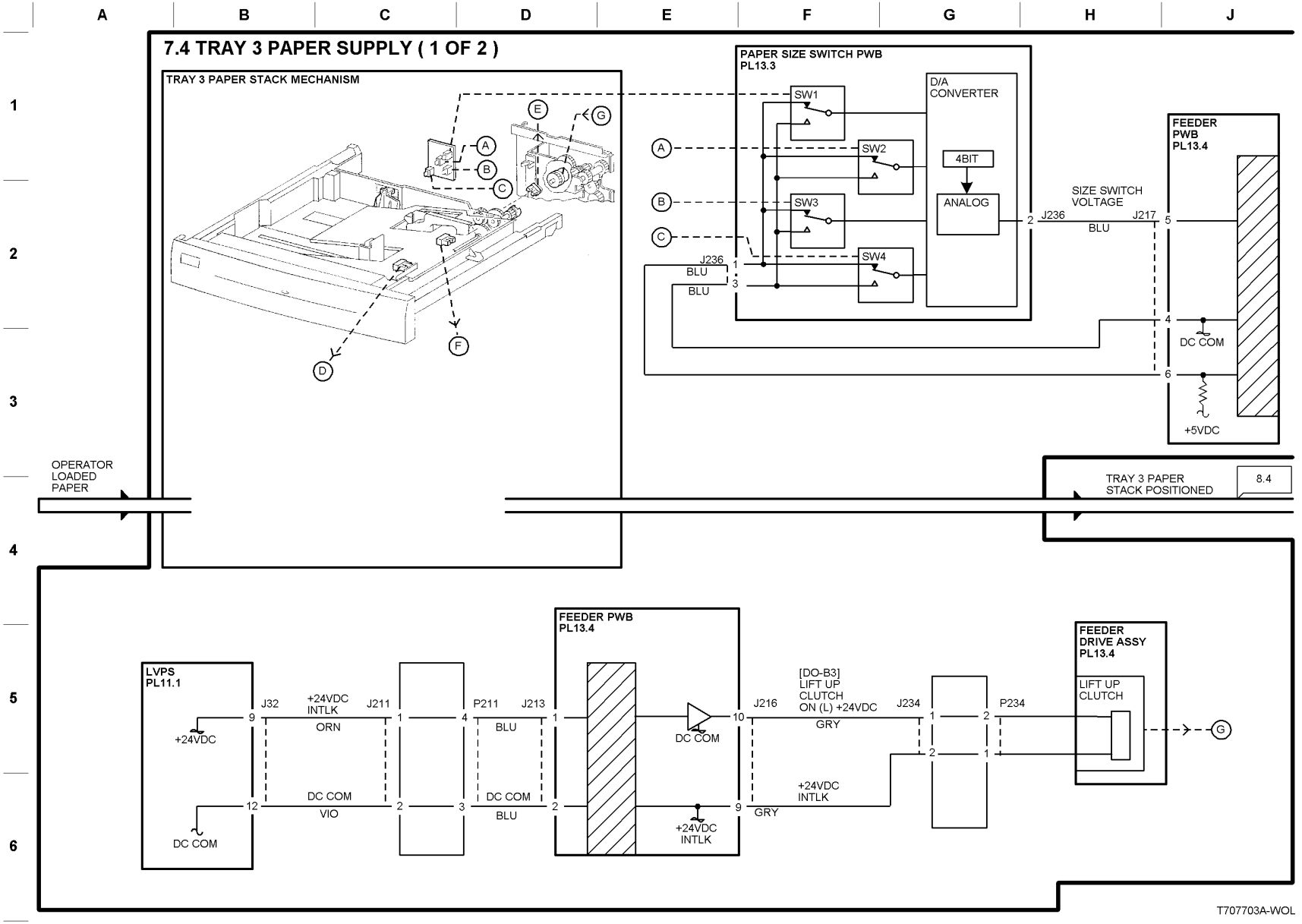


**Figure 1 Tray 3 Paper Supply (1 of 2)**

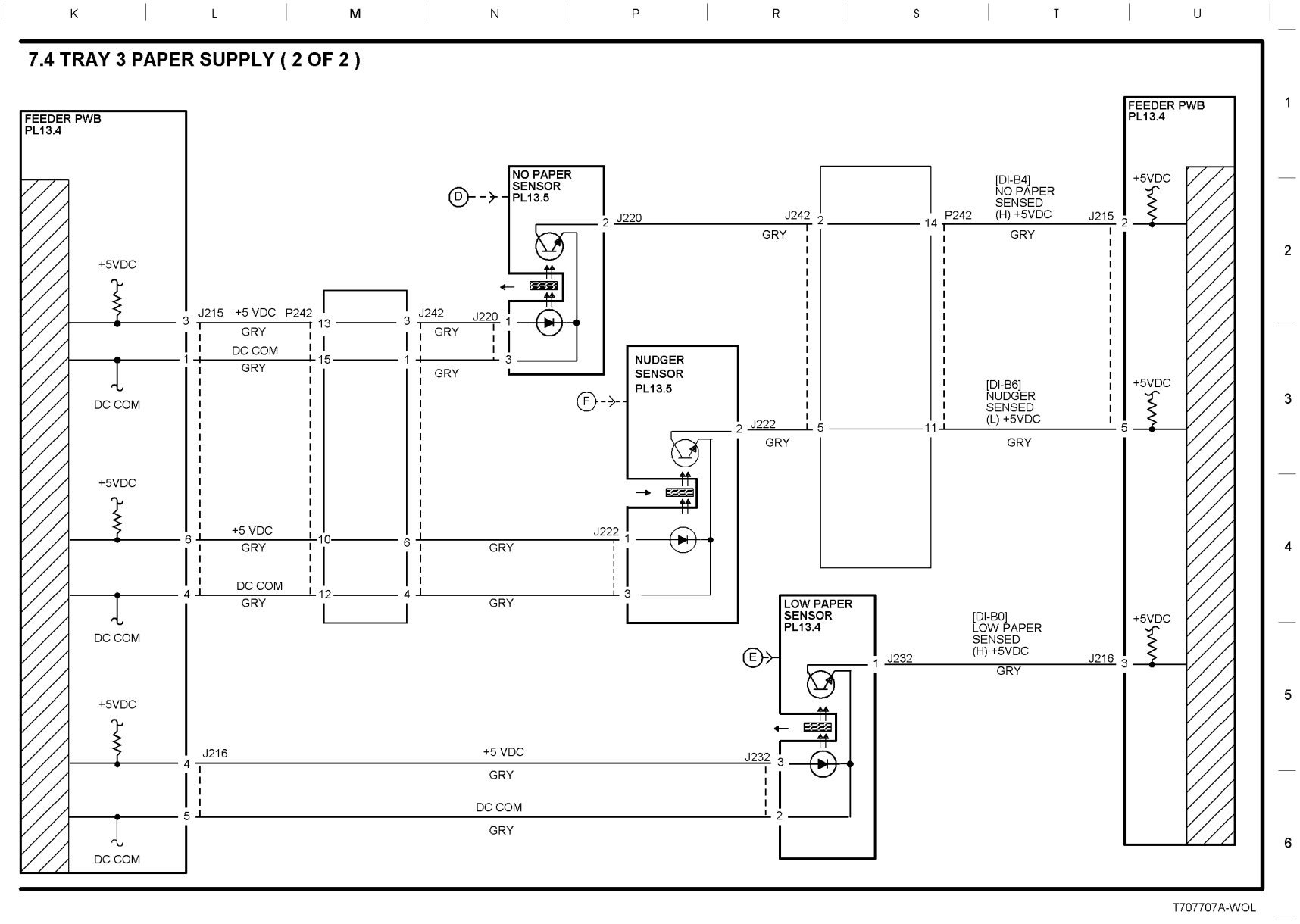


**Figure 1 Tray 3 Paper Supply (2 of 2)**

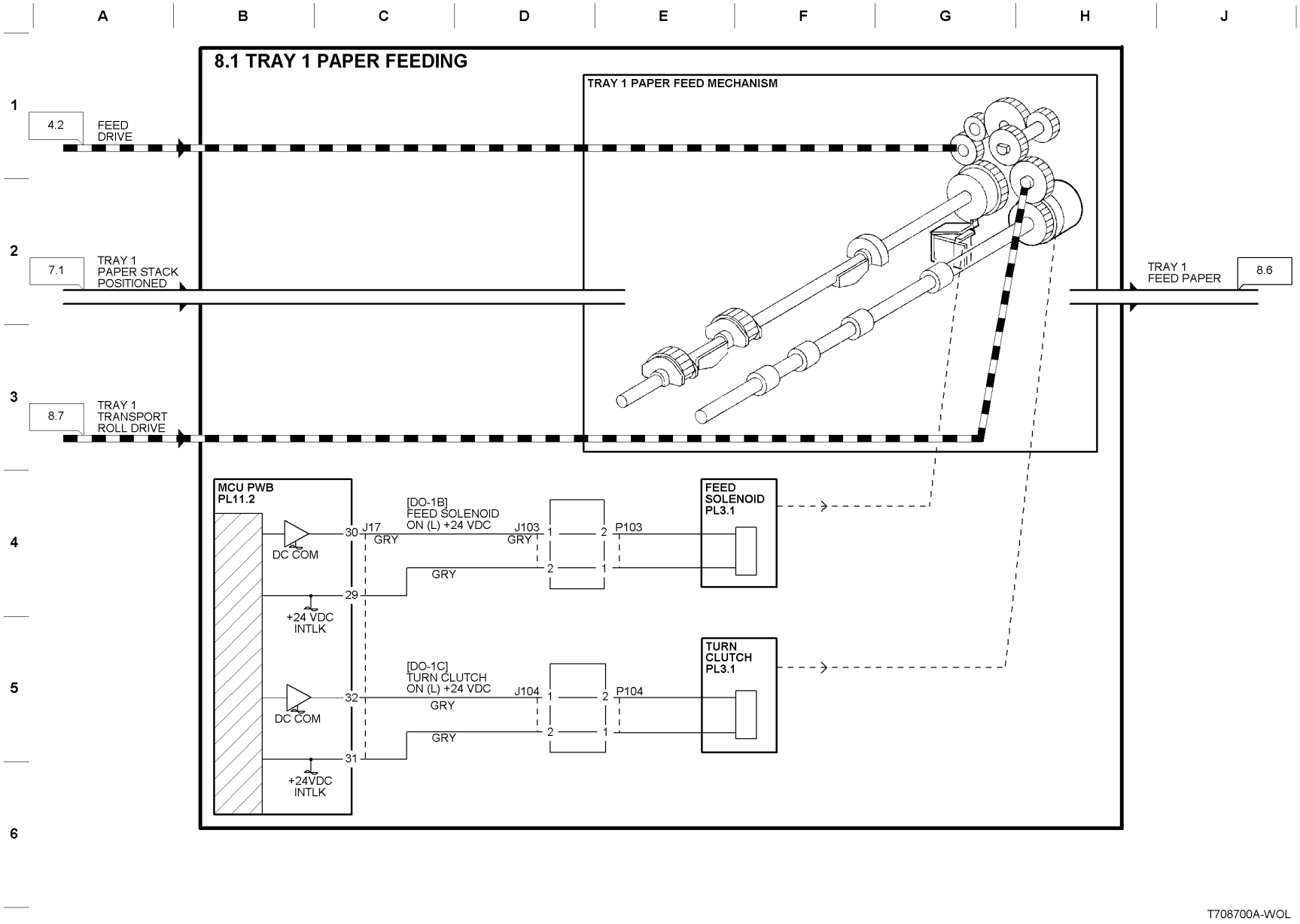


**Figure 1 Tray 1 Paper Feeding**

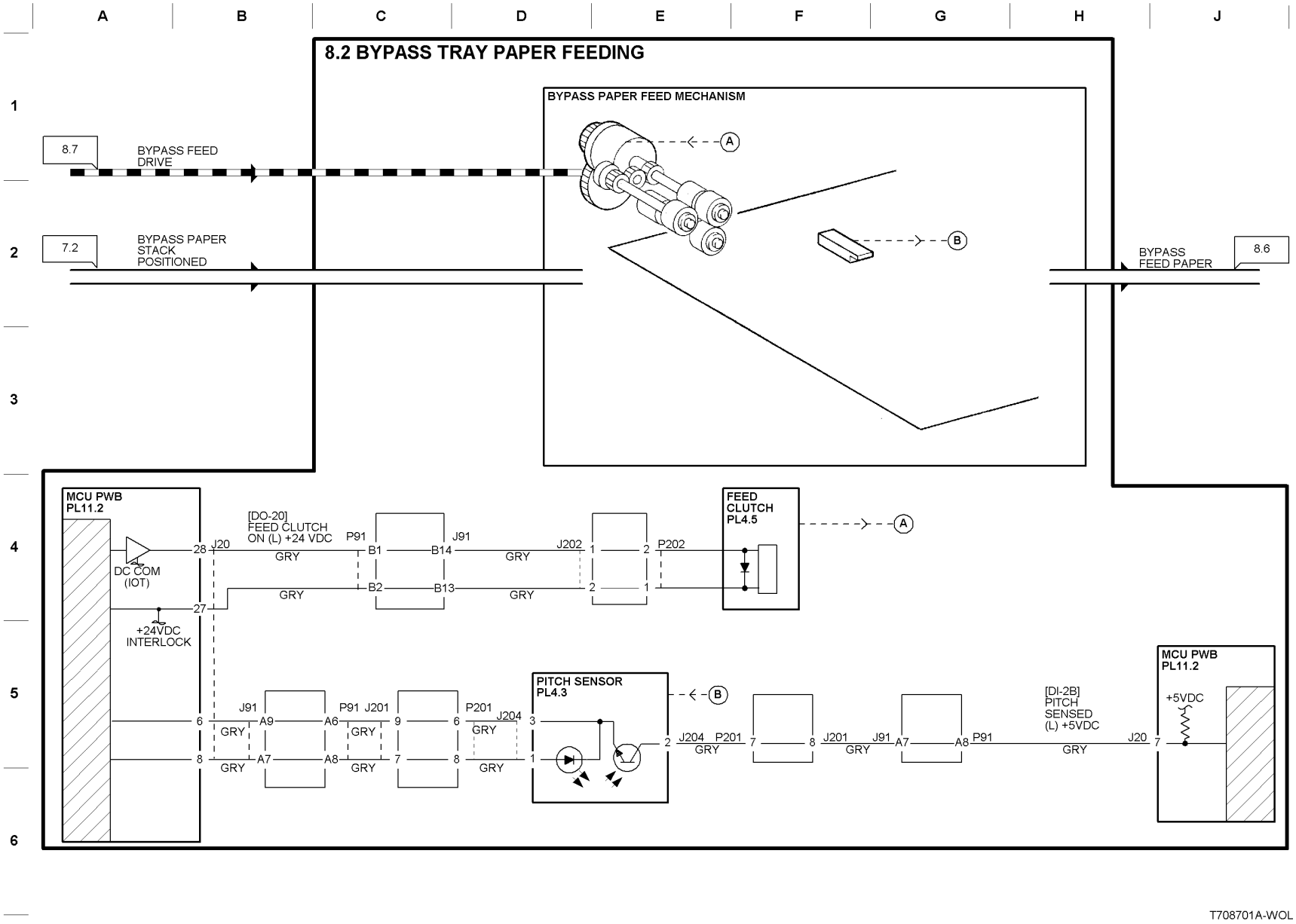


**Figure 1 Bypass Tray Feeding**

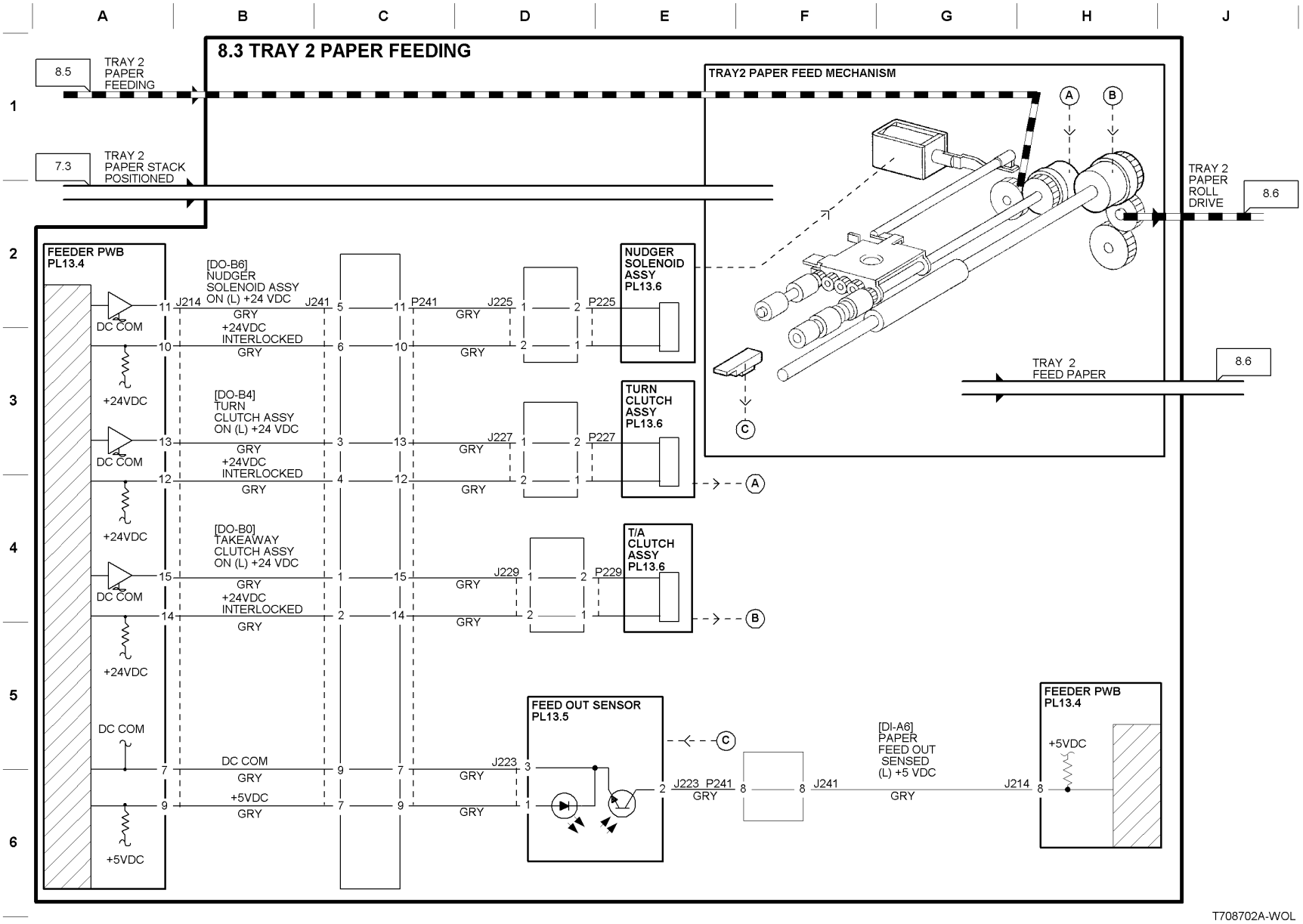


**Figure 1 Tray 2 Paper Feeding**

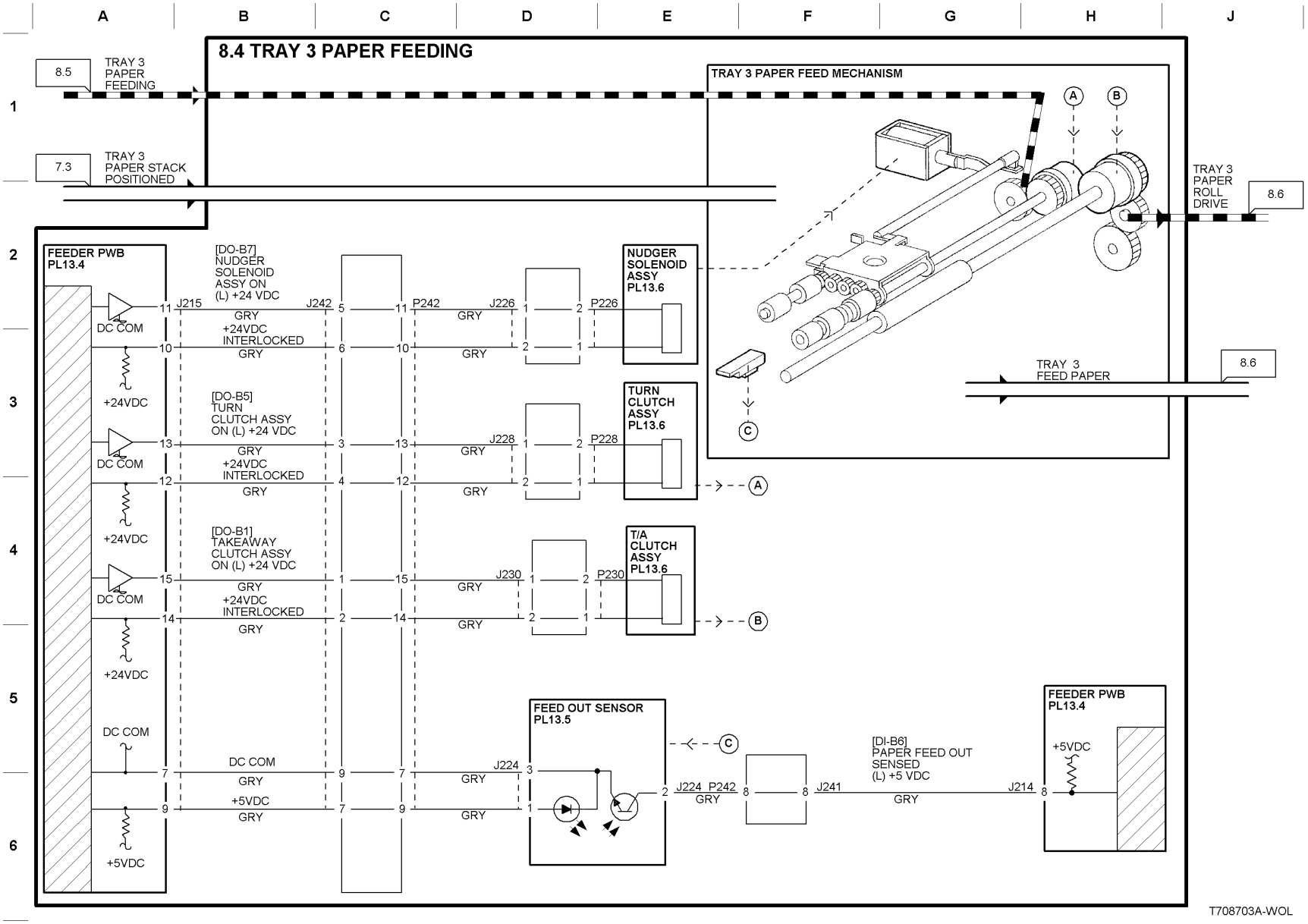


**Figure 1 Tray 3 Paper Feeding**

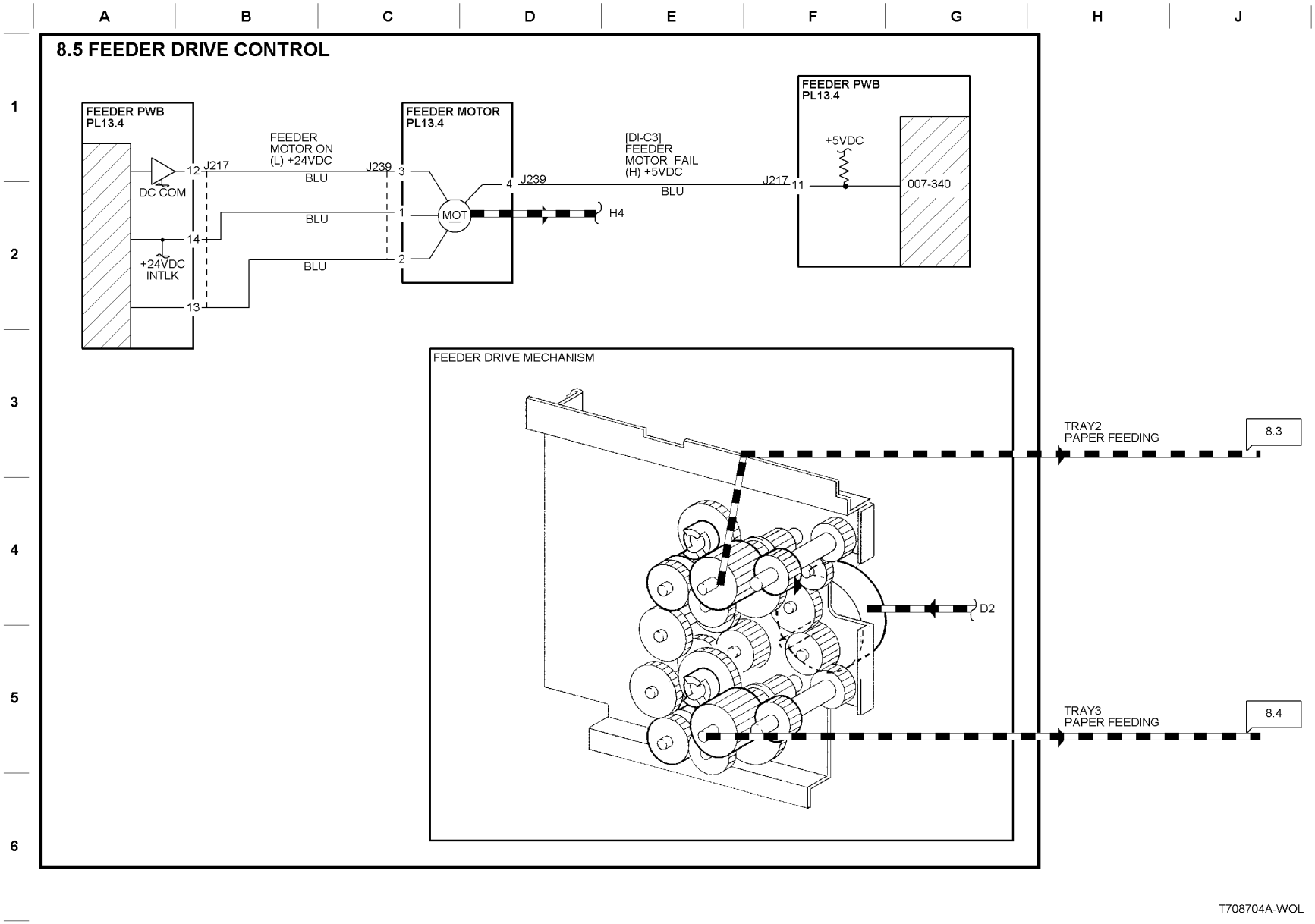


**Figure 1 Feeder Drive Control**

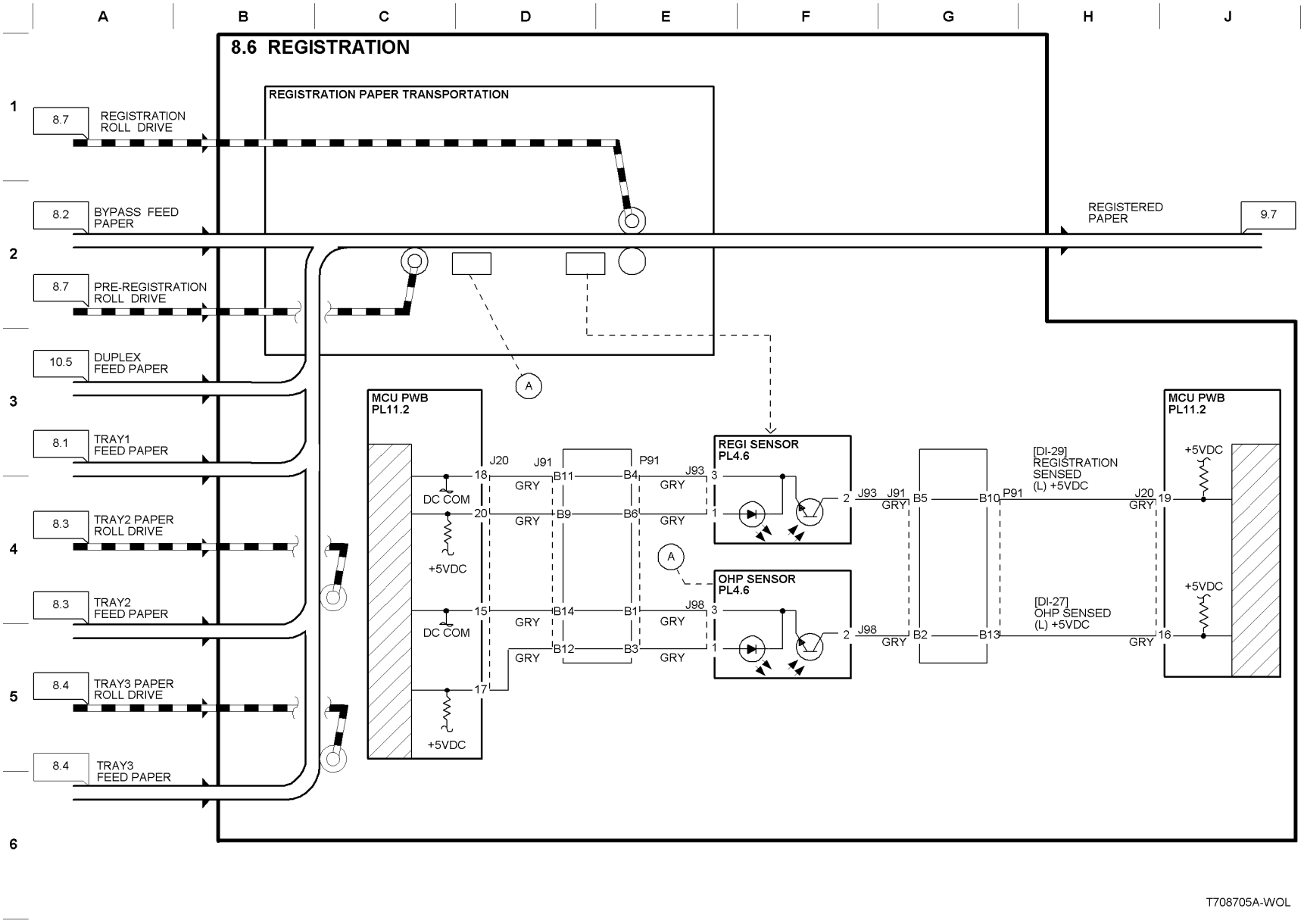


**Figure 1 Registration**

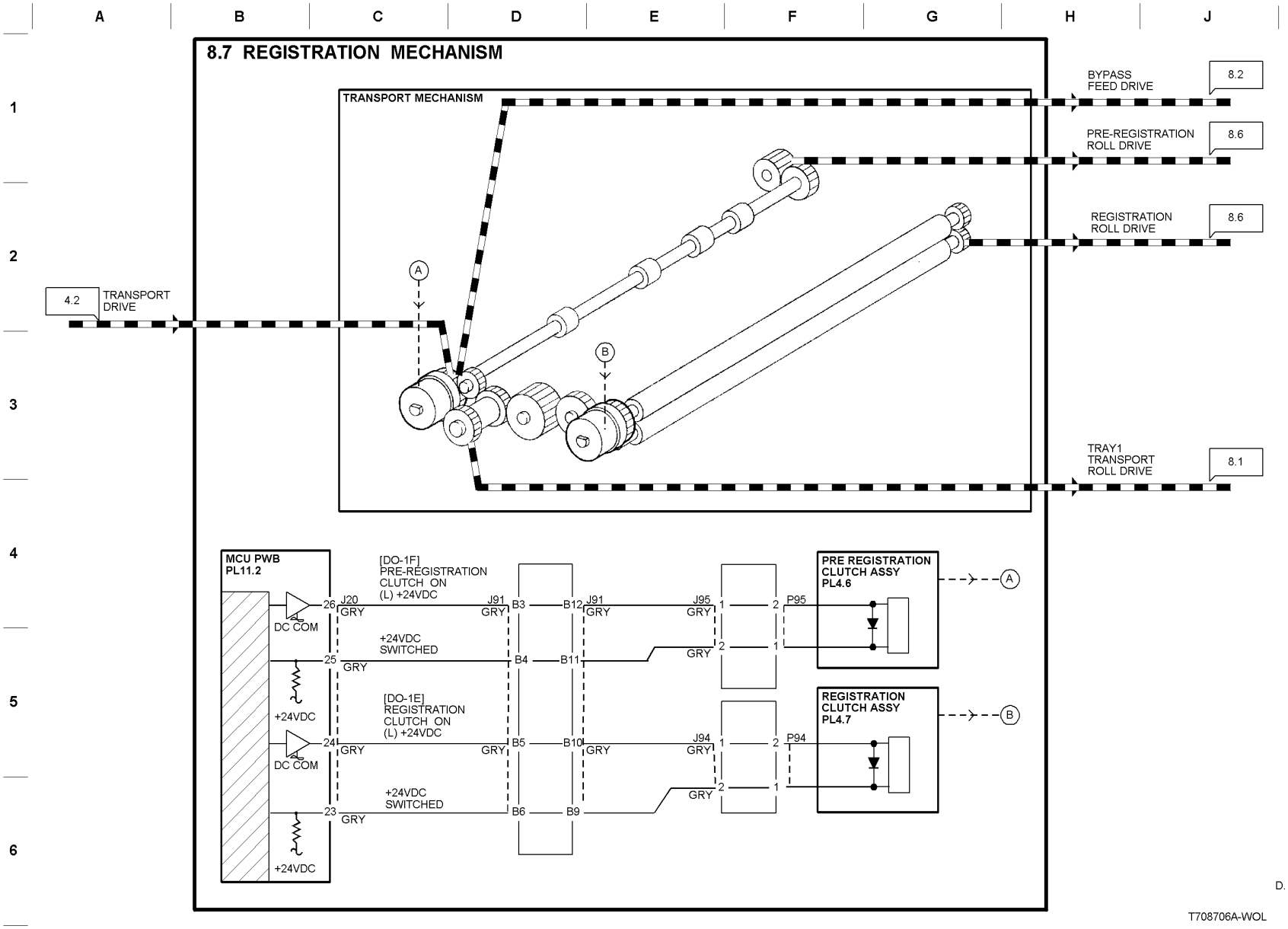


**Figure 1 Registration Mechanism**

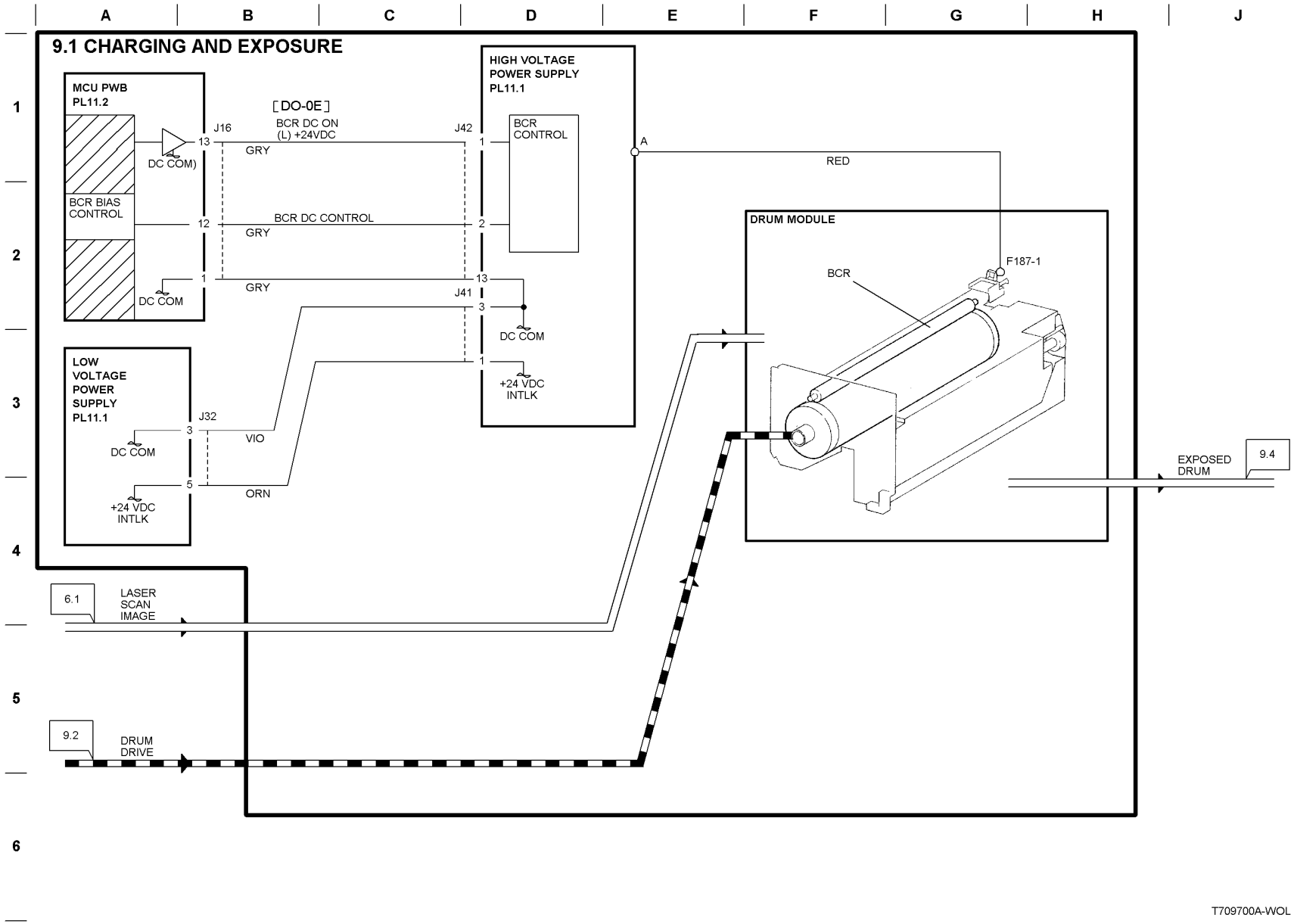


**Figure 1 Charging and Exposure**

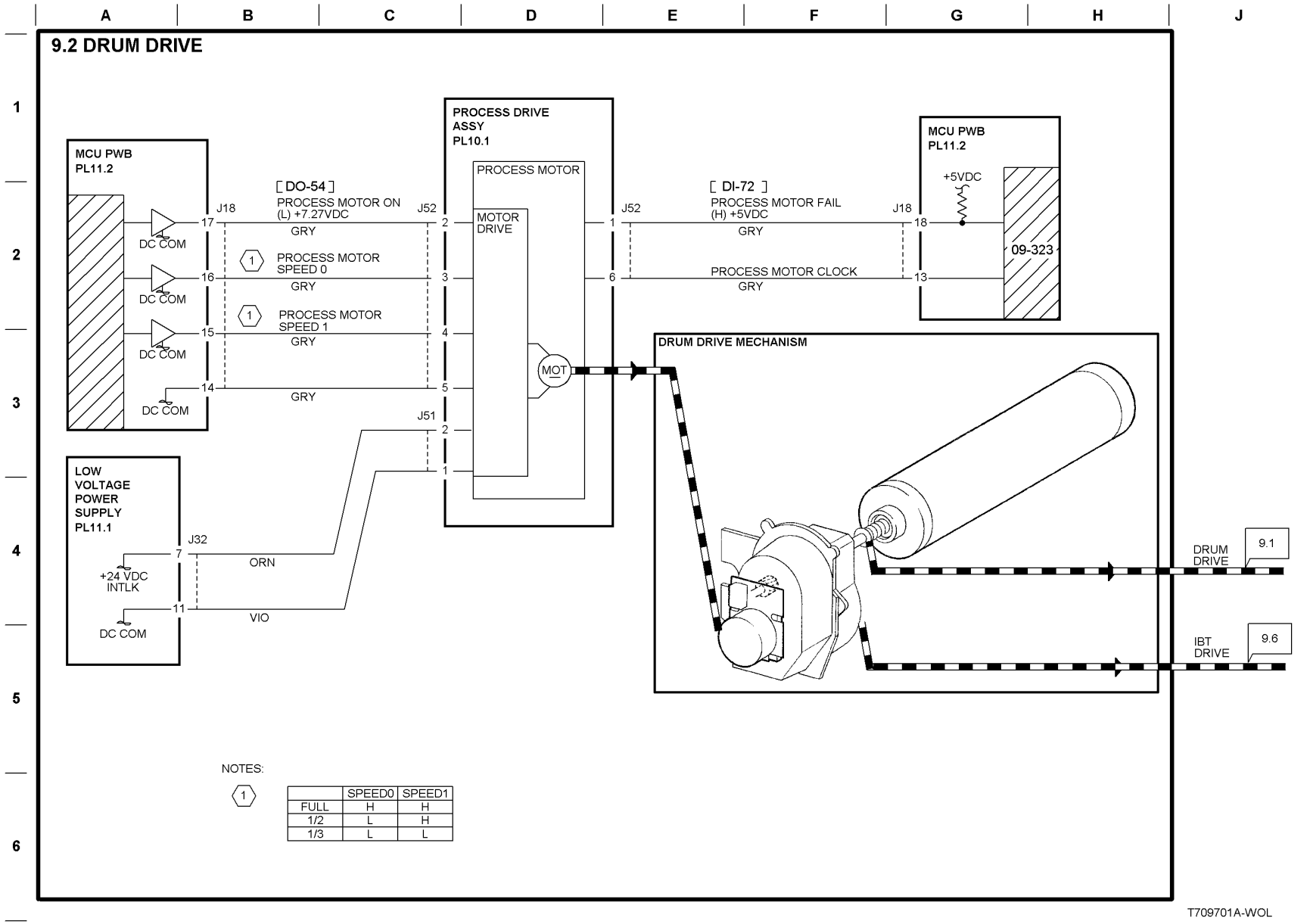


**Figure 1 BSD 9.2 Drum Drive**

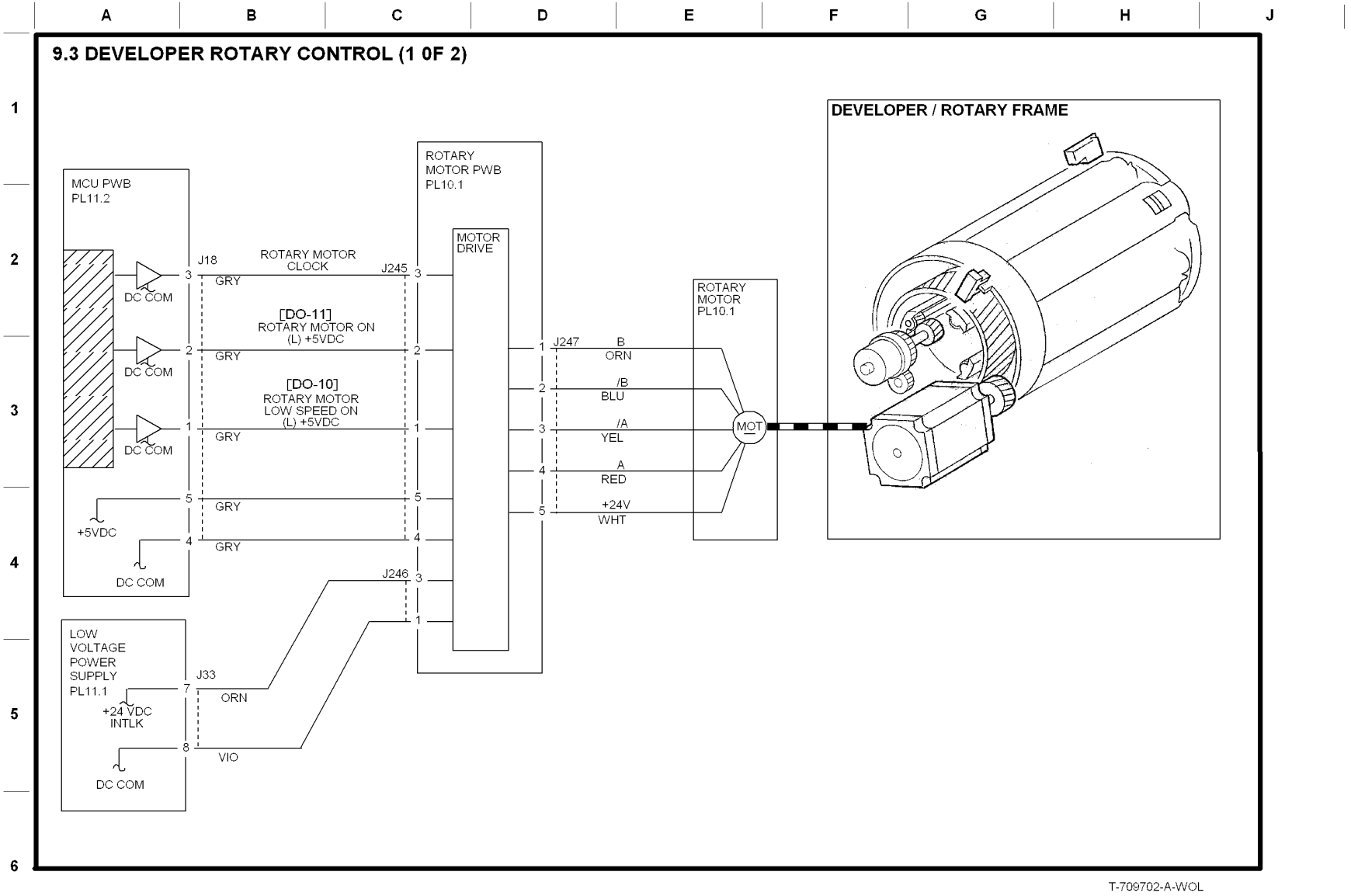


**Figure 1 Developer Rotary Control (1 of 2)**

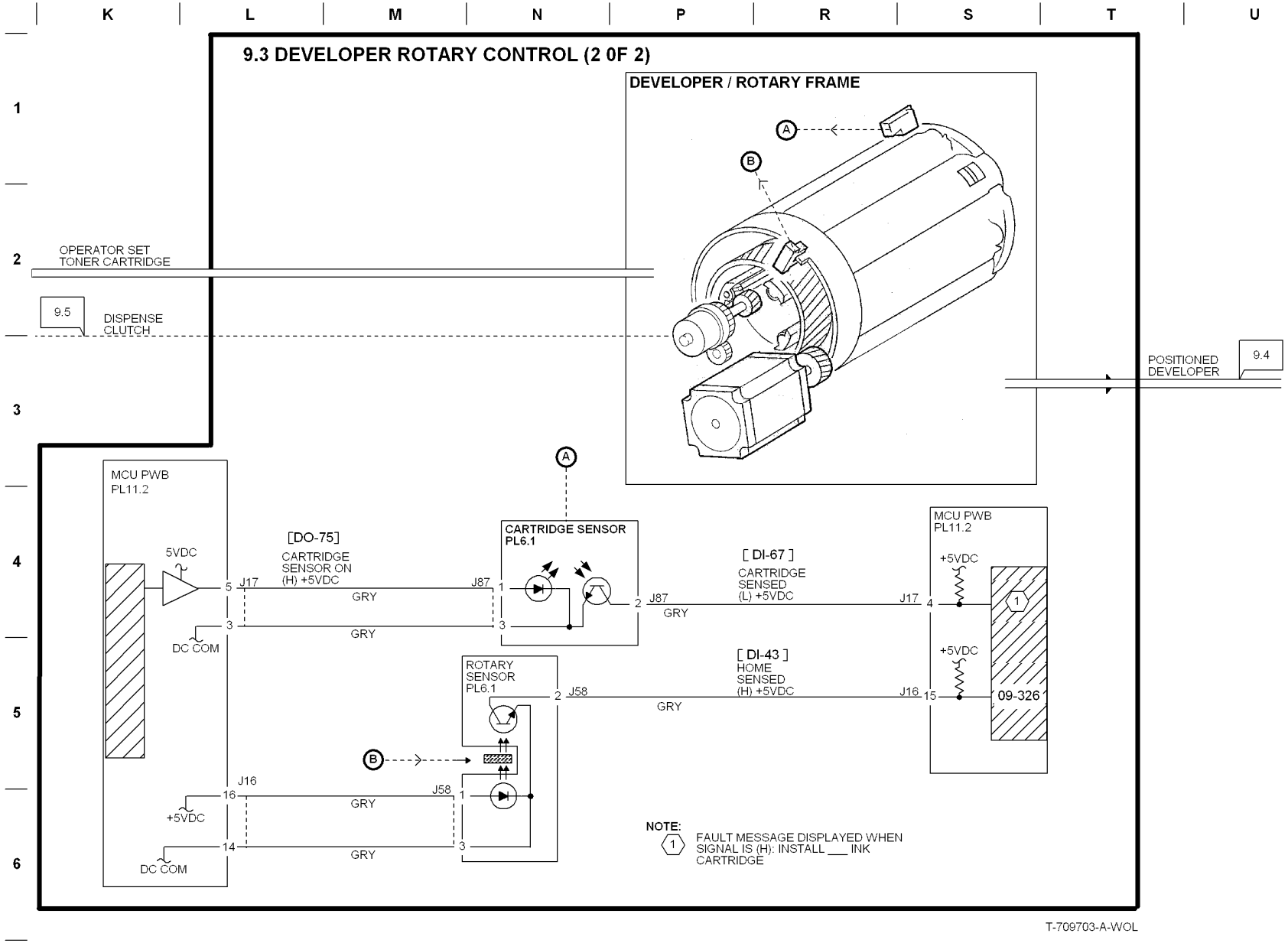


**Figure 1 Developer Rotary Control (2 of 2)**

## 9.4 DEVELOPMENT (1OF 2)

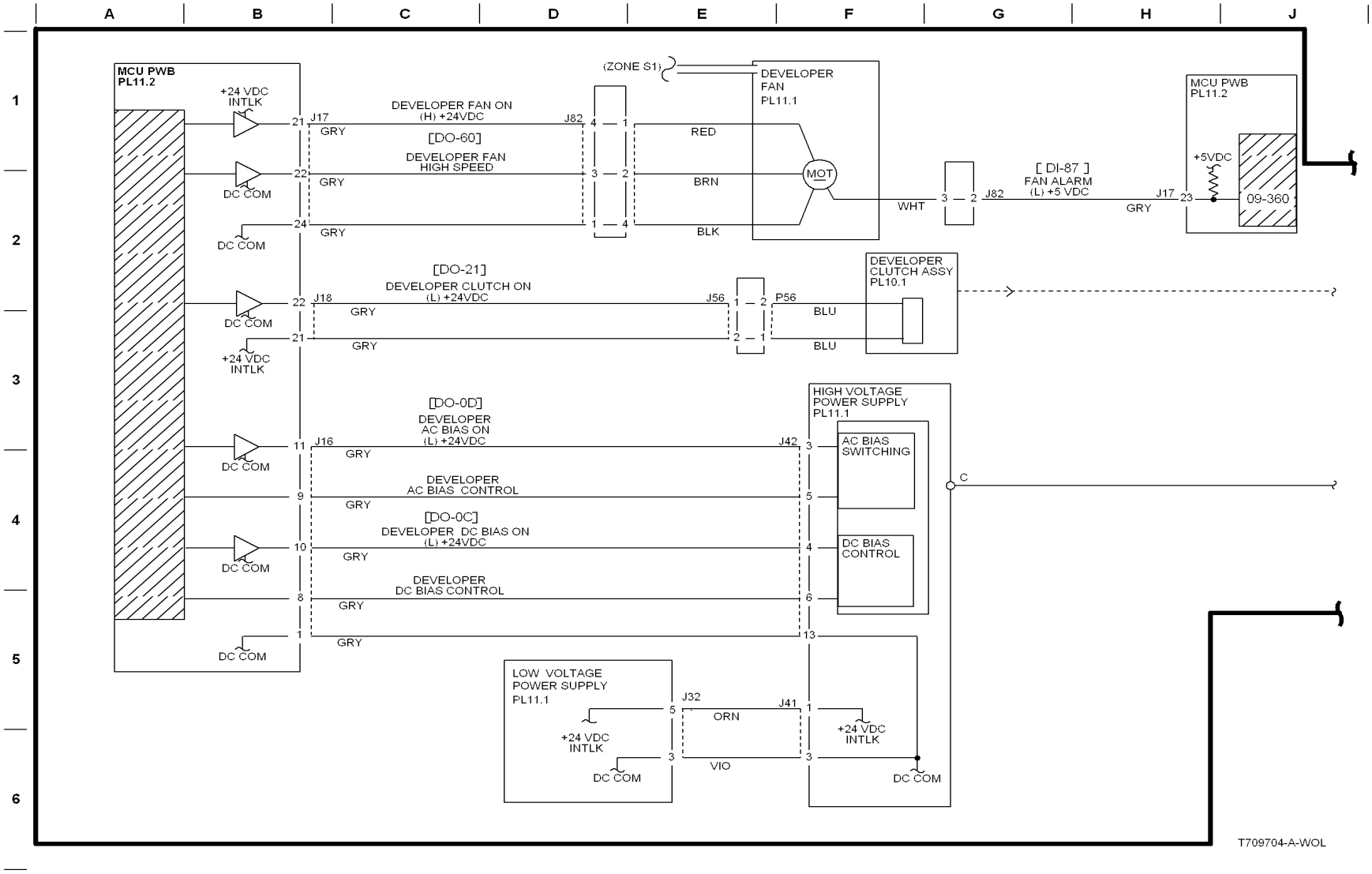


**Figure 1 Development (1 of 2)**

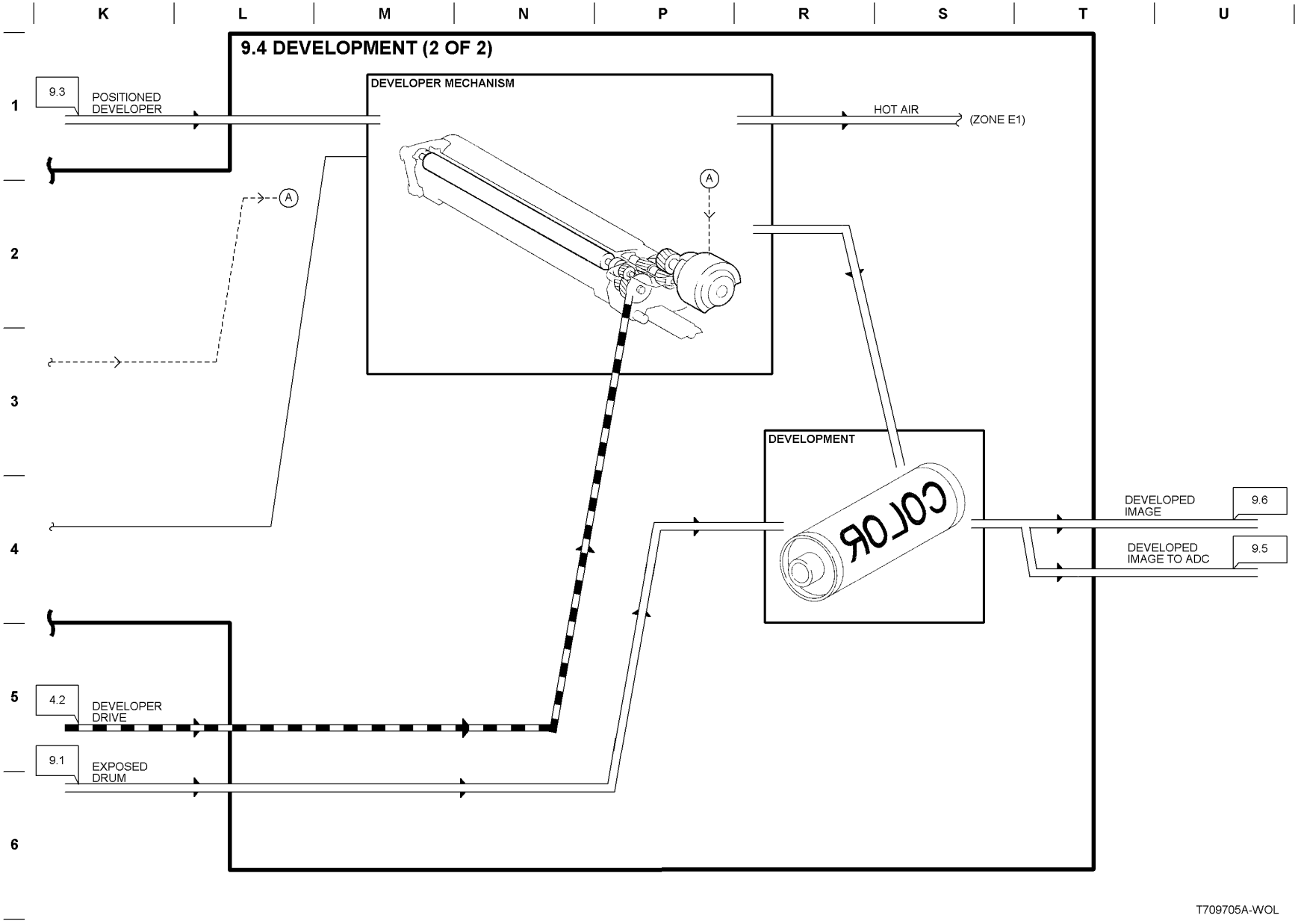


**Figure 1 Development (2 of 2)**

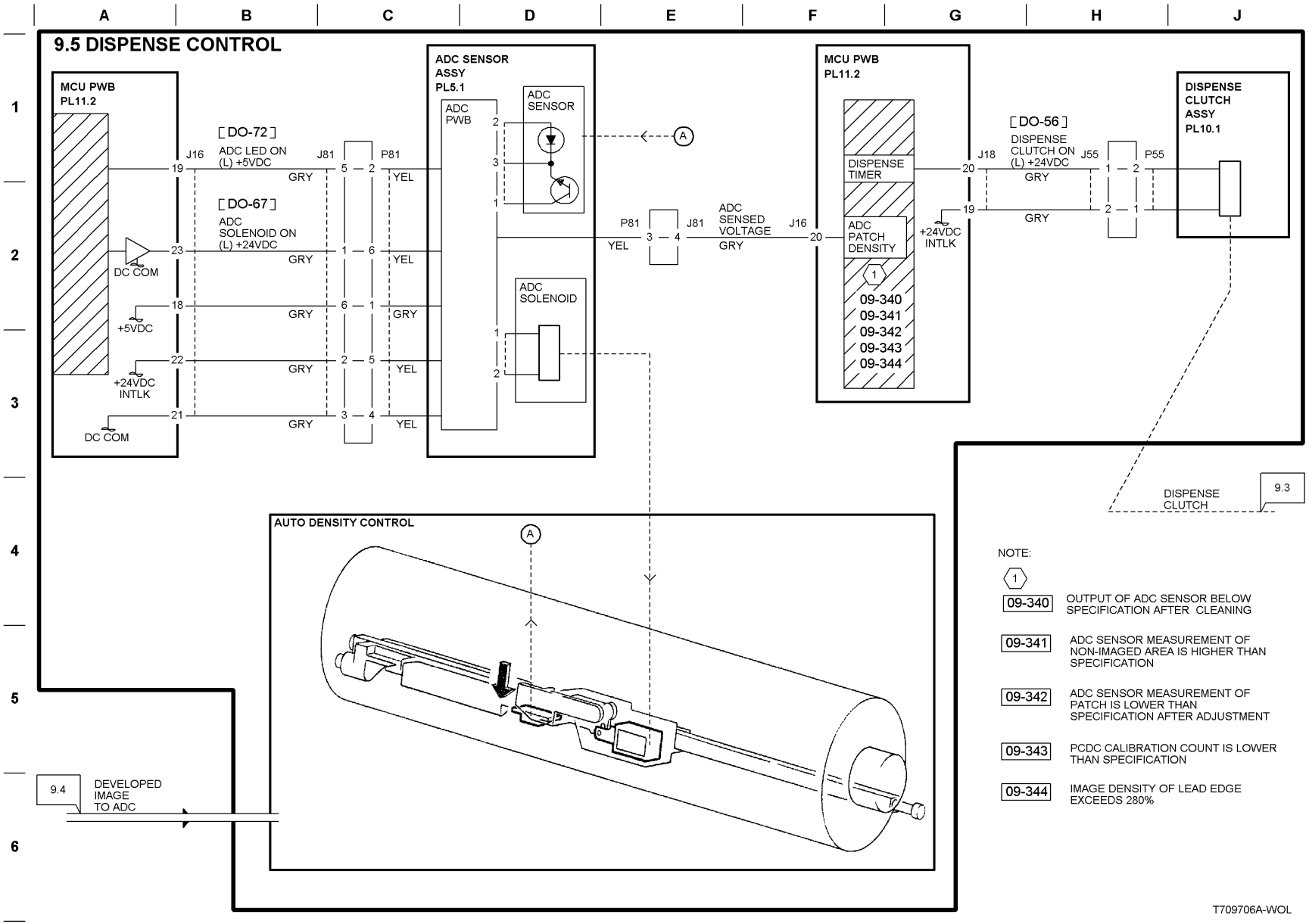


**Figure 1 Dispense Control**

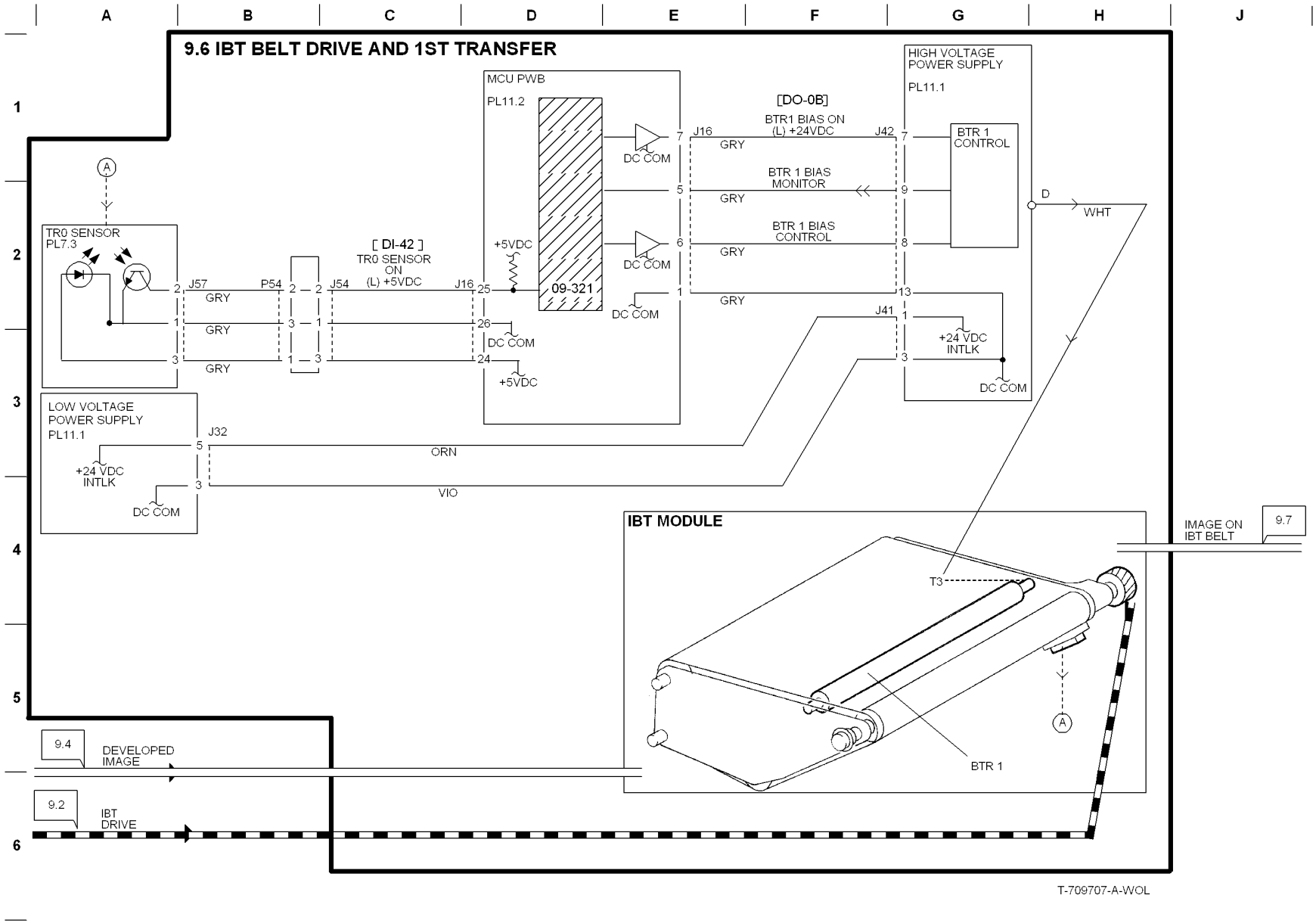


**Figure 1 IBT Belt Drive and 1st Transfer**

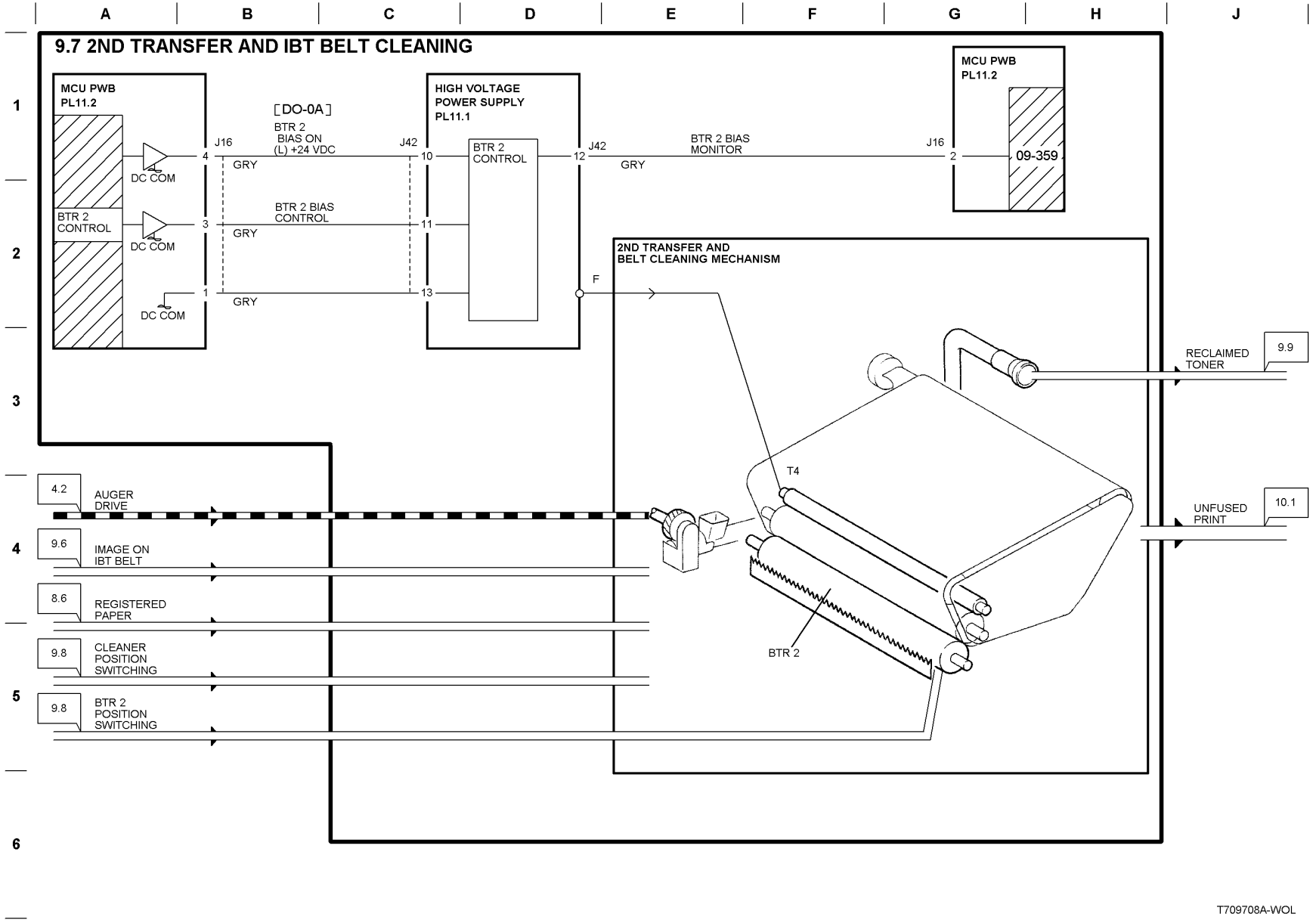


**Figure 1 2nd Transfer and IBT Belt Cleaning**

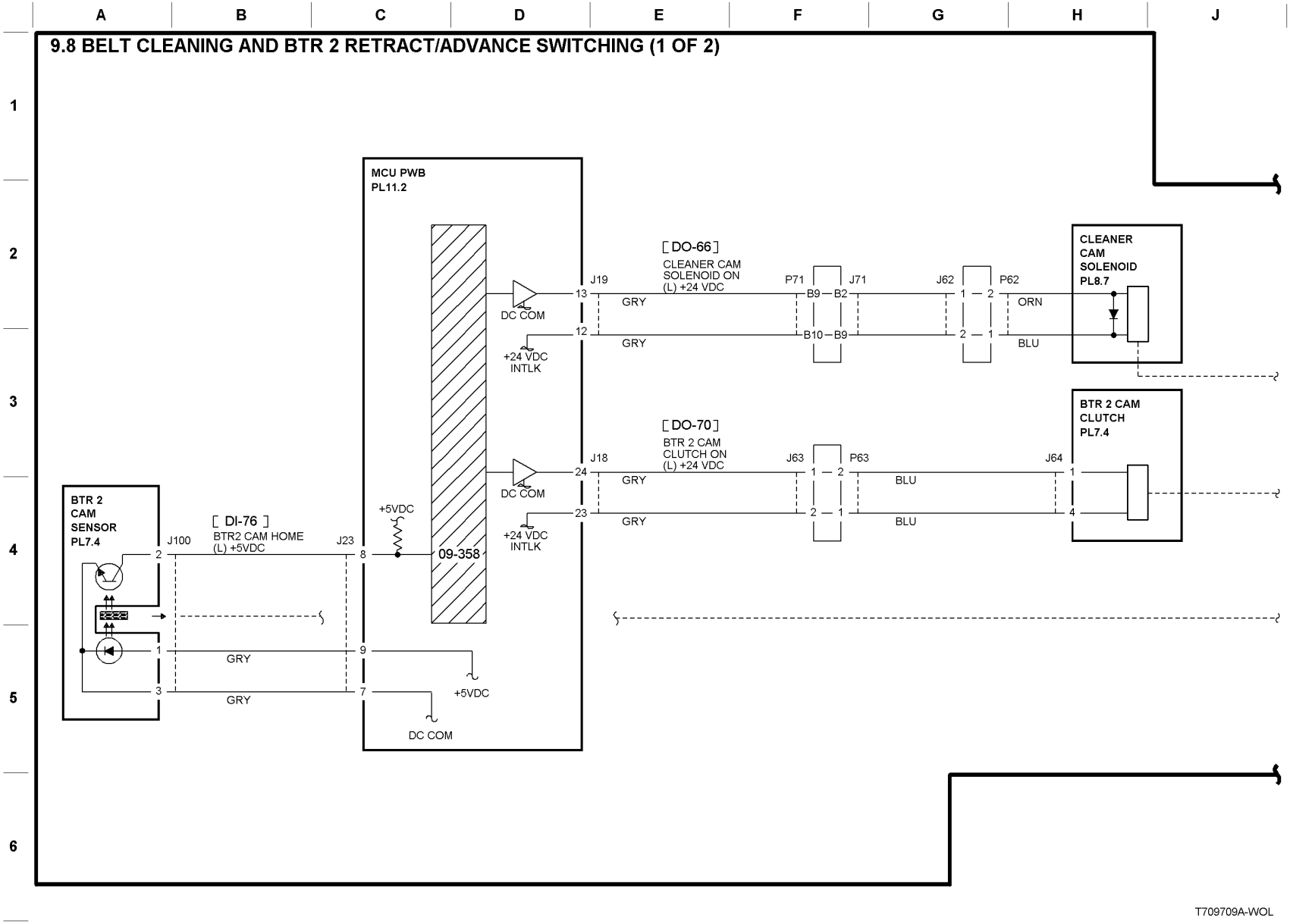


**Figure 1 Belt Cleaning and BTR 2 Retract/Advance Switching (1 of 2)**

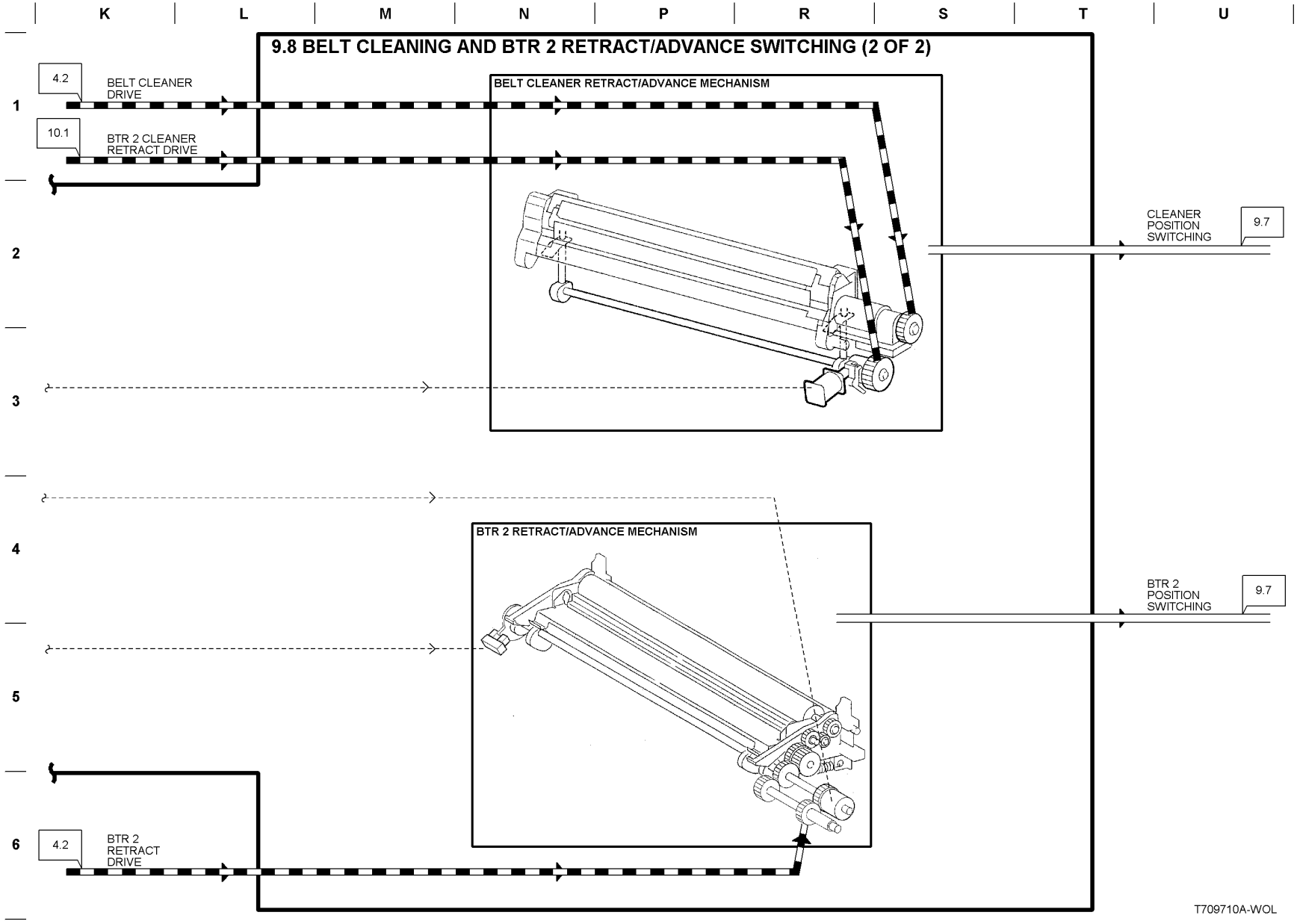


**Figure 1 Belt Cleaning and BTR 2 Retract/Advance Switching (2 of 2)**

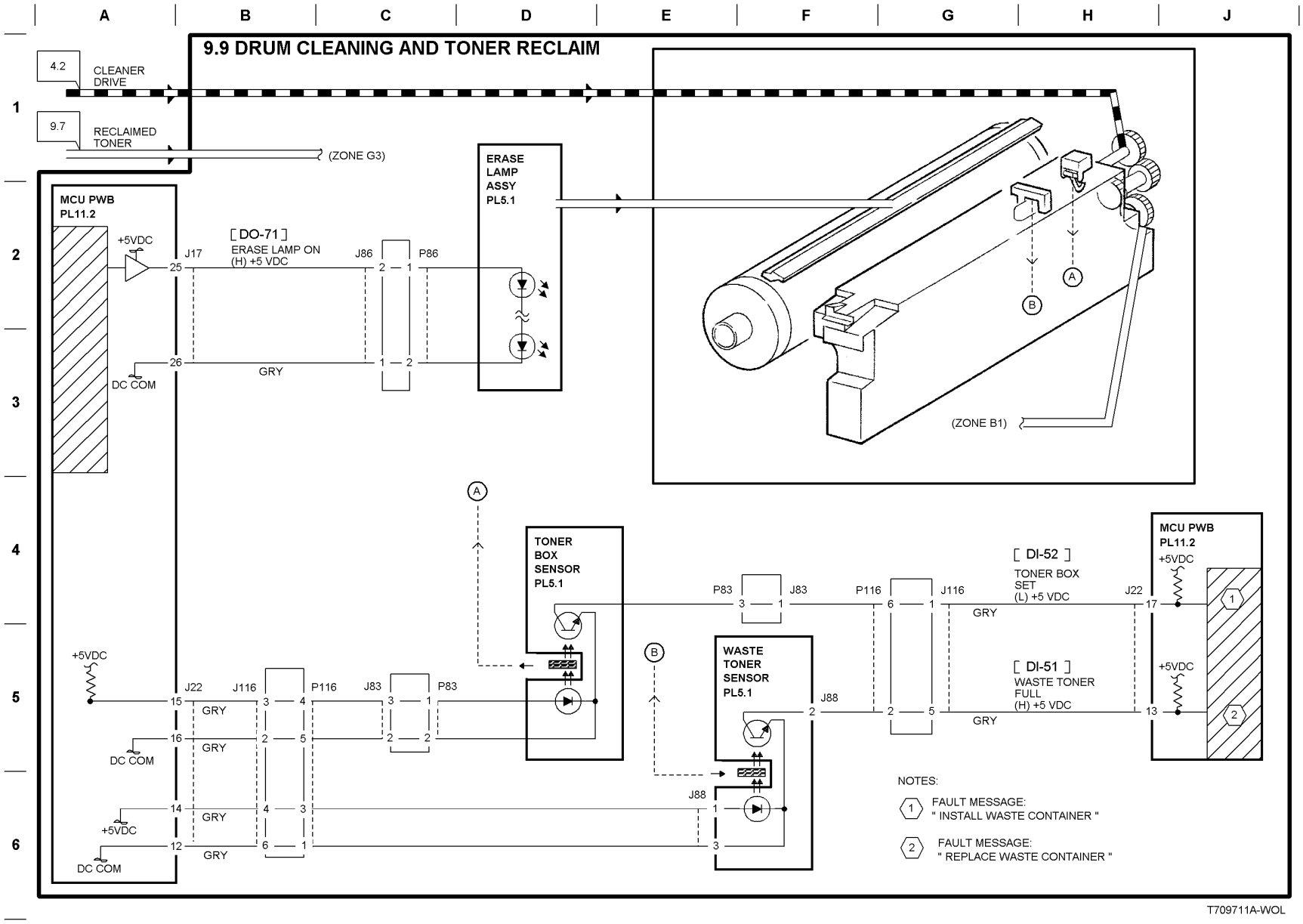


**Figure 1 Drum Cleaning and Toner Reclaim**

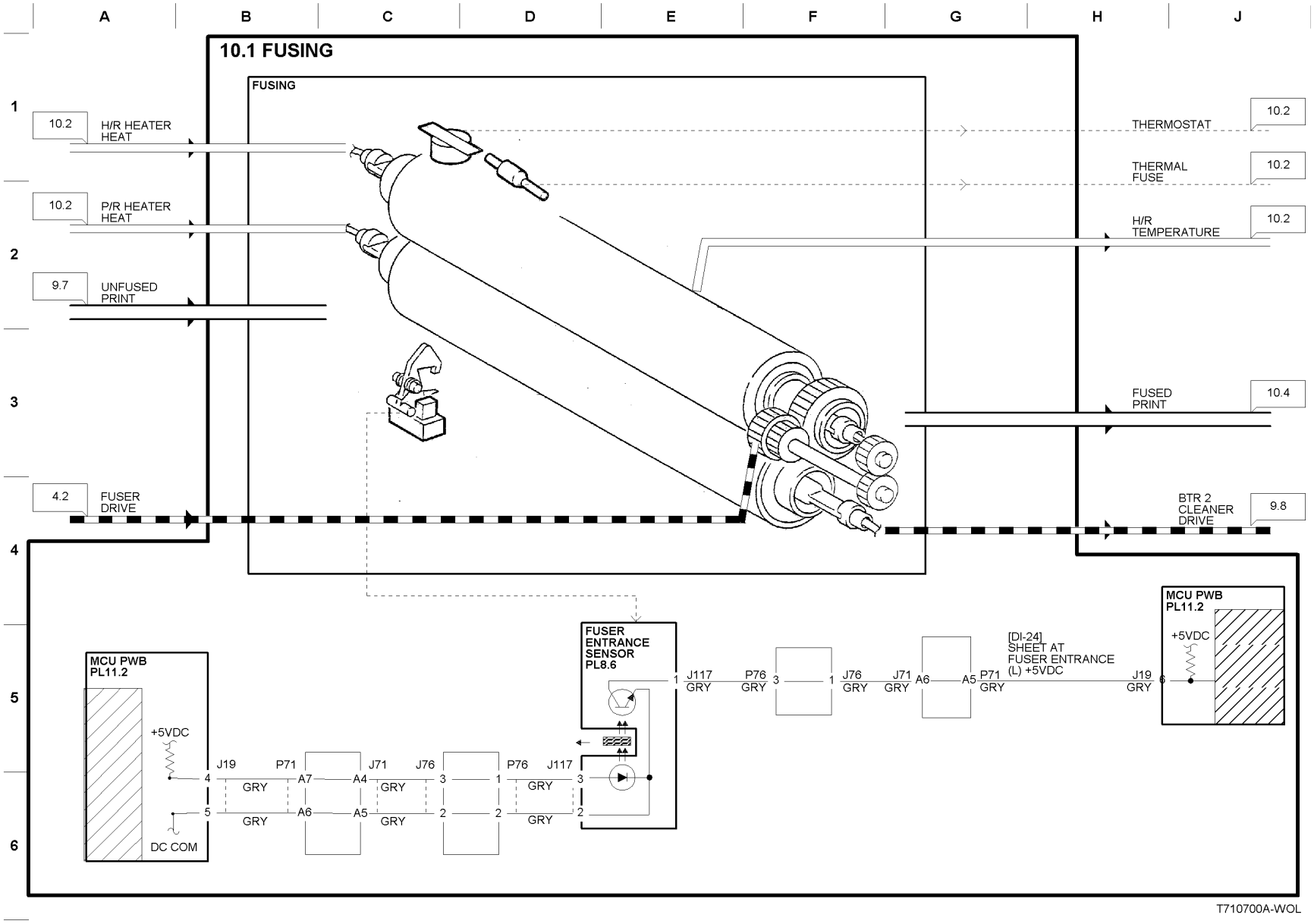


**Figure 1 Fusing**

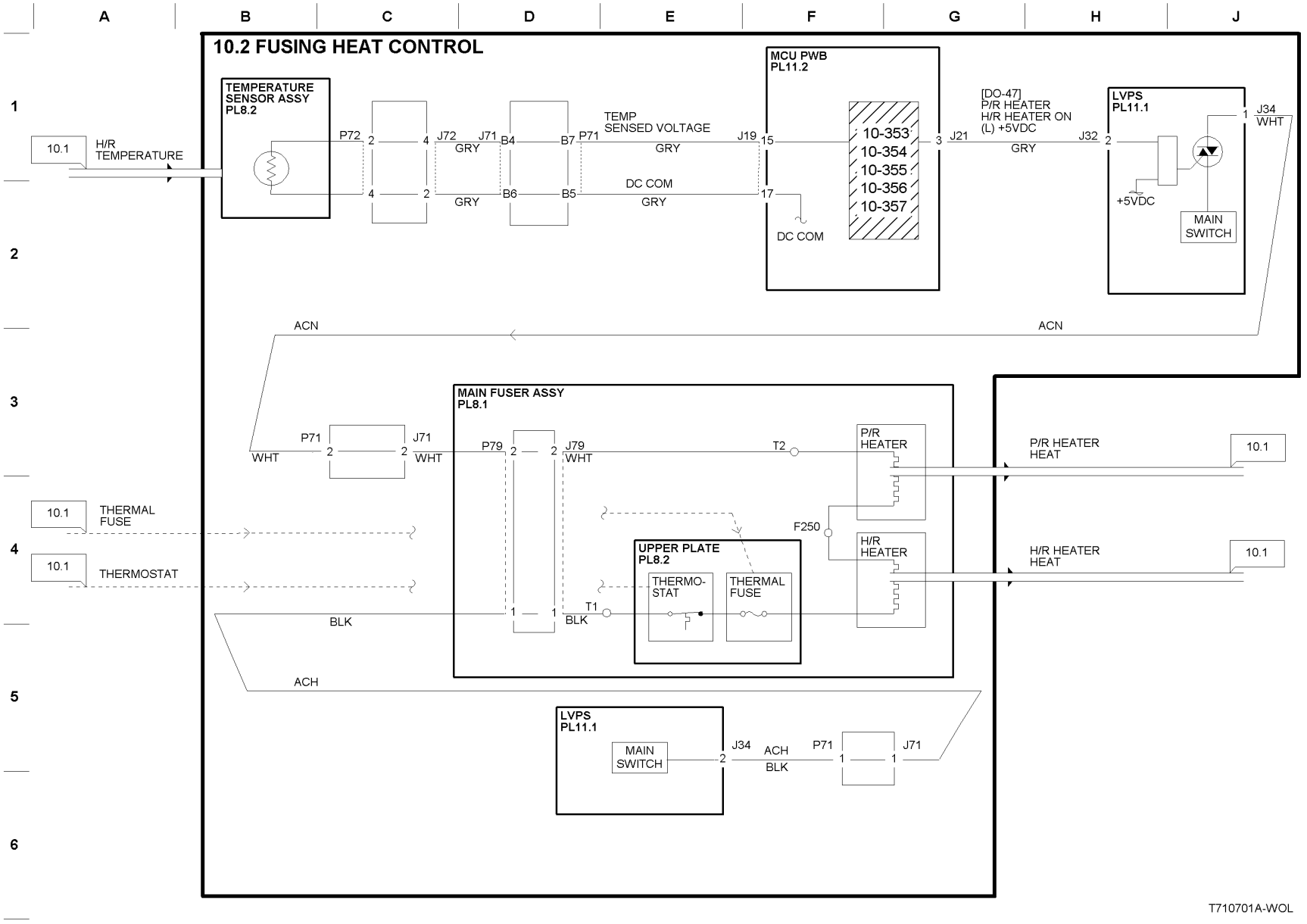


**Figure 1 Fusing Heat Control**

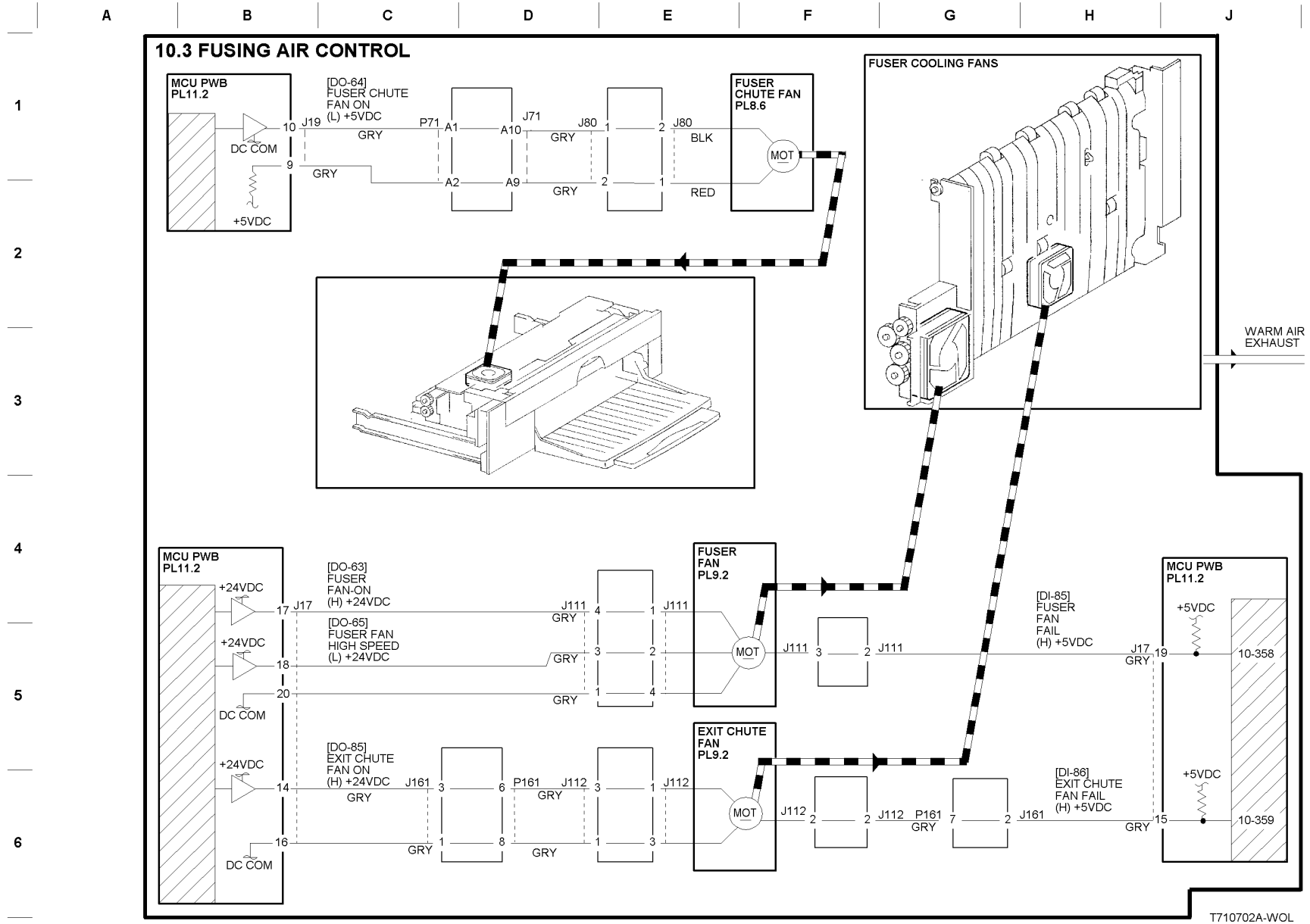


**Figure 1 Fusing Air Control**

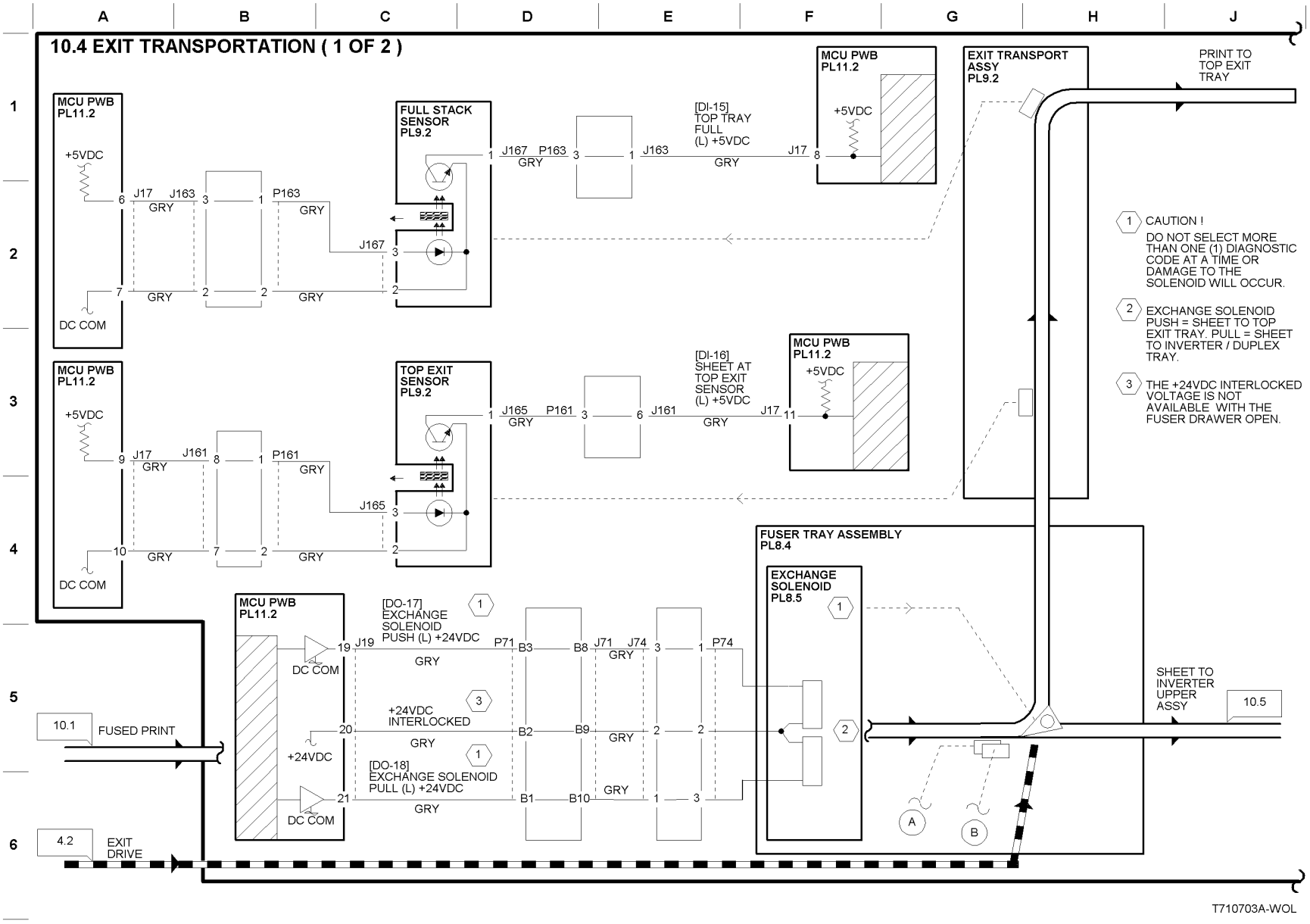
10.4 EXIT TRANSPORTATION ( 1 OF 2 )
MCU PWB PL11.2
+5VDC
DC COM
FULL STACK SENSOR PL9.2
TOP EXIT SENSOR PL9.2
[DI-15] TOP TRAY FULL (L) +5VDC
[DI-16] SHEET AT TOP EXIT SENSOR (L) +5VDC
EXIT TRANSPORT ASSY PL9.2
PRINT TO TOP EXIT TRAY
FUSER TRAY ASSEMBLY PL8.4
EXCHANGE SOLENOID PL8.5
[DO-17] EXCHANGE SOLENOID PUSH (L) +24VDC
[DO-18] EXCHANGE SOLENOID PULL (L) +24VDC
+24VDC INTERLOCKED
SHEET TO INVERTER UPPER ASSY
10.5
10.1
FUSED PRINT
4.2
EXIT DRIVE
1 CAUTION ! DO NOT SELECT MORE THAN ONE (1) DIAGNOSTIC CODE AT A TIME OR DAMAGE TO THE SOLENOID WILL OCCUR.
2 EXCHANGE SOLENOID PUSH = SHEET TO TOP EXIT TRAY. PULL = SHEET TO INVERTER / DUPLEX TRAY.
3 THE +24VDC INTERLOCKED VOLTAGE IS NOT AVAILABLE WITH THE FUSER DRAWER OPEN.
T710703A-WOL

**Figure 1 Exit Transportation (1 of 2)**

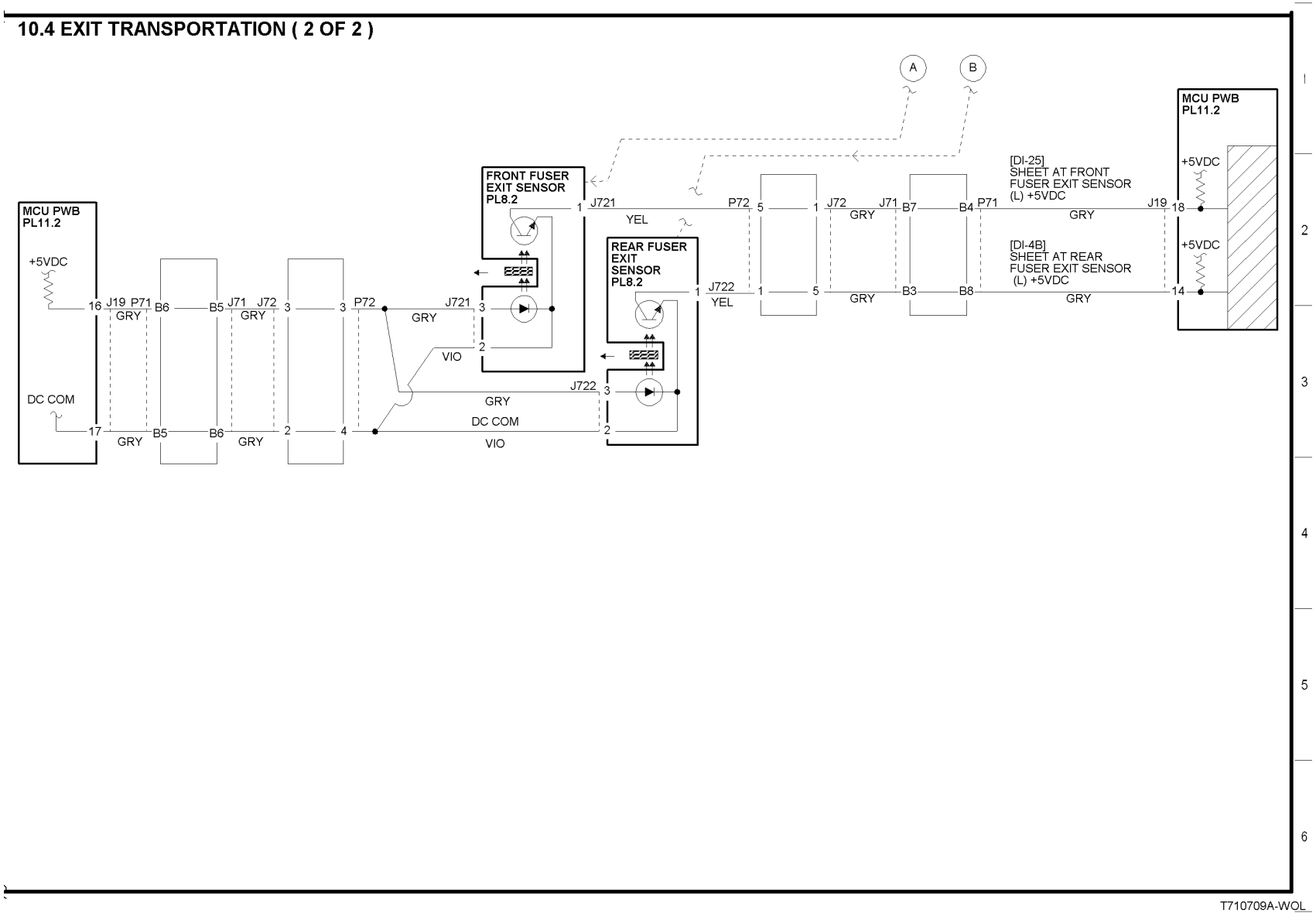


**Figure 1 Exit Transportation (2 of 2)**

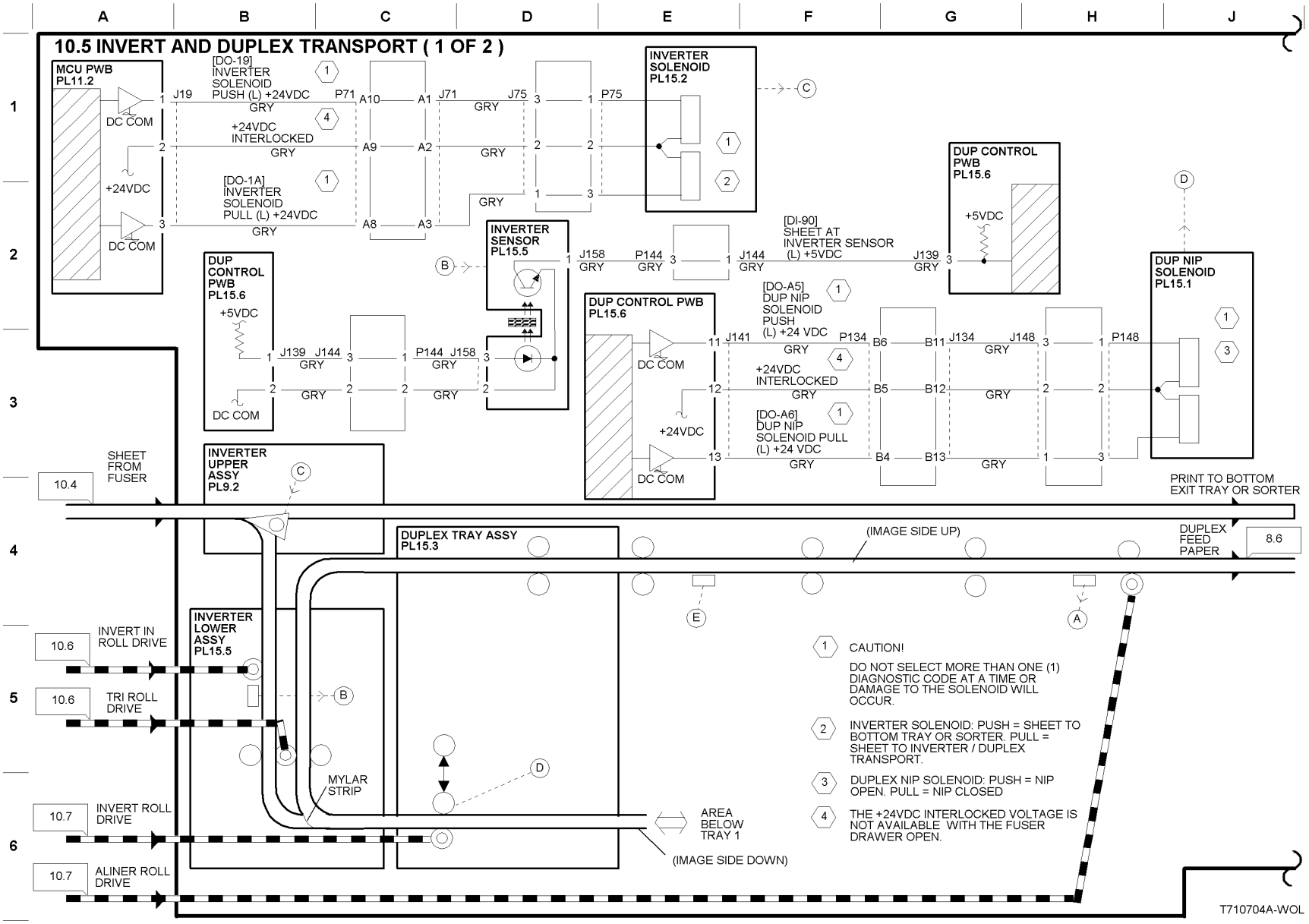
10.5 INVERT AND DUPLEX TRANSPORT ( 1 OF 2 )
MCU PWB PL11.2
DC COM
+24VDC
DC COM
[DO-19] INVERTER SOLENOID PUSH (L) +24VDC
+24VDC INTERLOCKED
[DO-1A] INVERTER SOLENOID PULL (L) +24VDC
INVERTER SOLENOID PL15.2
INVERTER SENSOR PL15.5
[DI-90] SHEET AT INVERTER SENSOR (L) +5VDC
DUP CONTROL PWB PL15.6
+5VDC
DUP NIP SOLENOID PL15.1
[DO-A5] DUP NIP SOLENOID PUSH (L) +24 VDC
[DO-A6] DUP NIP SOLENOID PULL (L) +24 VDC
SHEET FROM FUSER
10.4
INVERTER UPPER ASSY PL9.2
DUPLEX TRAY ASSY PL15.3
(IMAGE SIDE UP)
PRINT TO BOTTOM EXIT TRAY OR SORTER
DUPLEX FEED PAPER
8.6
INVERTER LOWER ASSY PL15.5
INVERT IN ROLL DRIVE
10.6
TRI ROLL DRIVE
10.6
MYLAR STRIP
INVERT ROLL DRIVE
10.7
ALINER ROLL DRIVE
10.7
AREA BELOW TRAY 1
(IMAGE SIDE DOWN)
1 CAUTION! DO NOT SELECT MORE THAN ONE (1) DIAGNOSTIC CODE AT A TIME OR DAMAGE TO THE SOLENOID WILL OCCUR.
2 INVERTER SOLENOID: PUSH = SHEET TO BOTTOM TRAY OR SORTER. PULL = SHEET TO INVERTER / DUPLEX TRANSPORT.
3 DUPLEX NIP SOLENOID: PUSH = NIP OPEN. PULL = NIP CLOSED
4 THE +24VDC INTERLOCKED VOLTAGE IS NOT AVAILABLE WITH THE FUSER DRAWER OPEN.
T710704A-WOL

**Figure 1 Invert and Duplex Transport (1 of 2)**

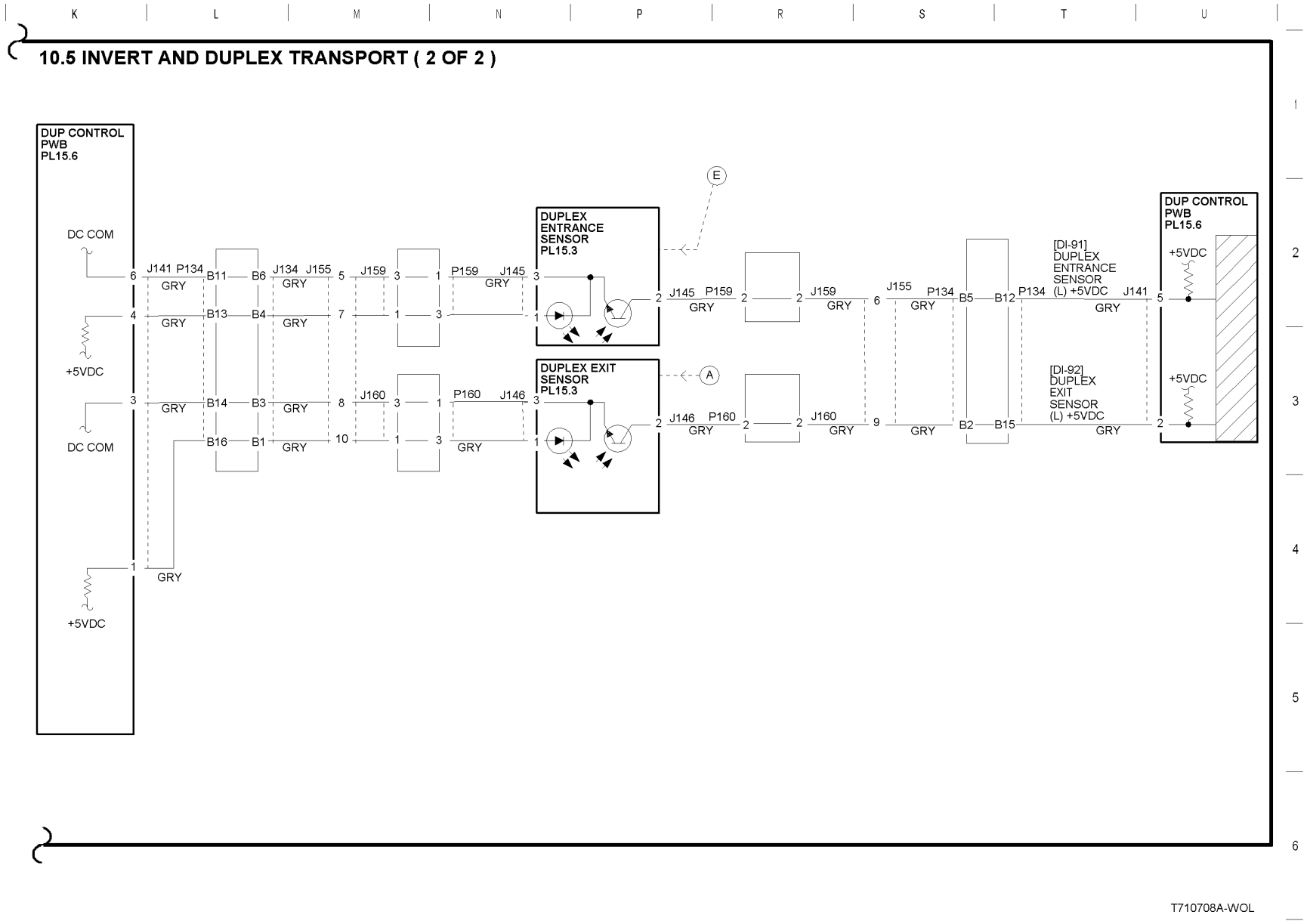


**Figure 1 Invert and Duplex Transport (2 of 2)**

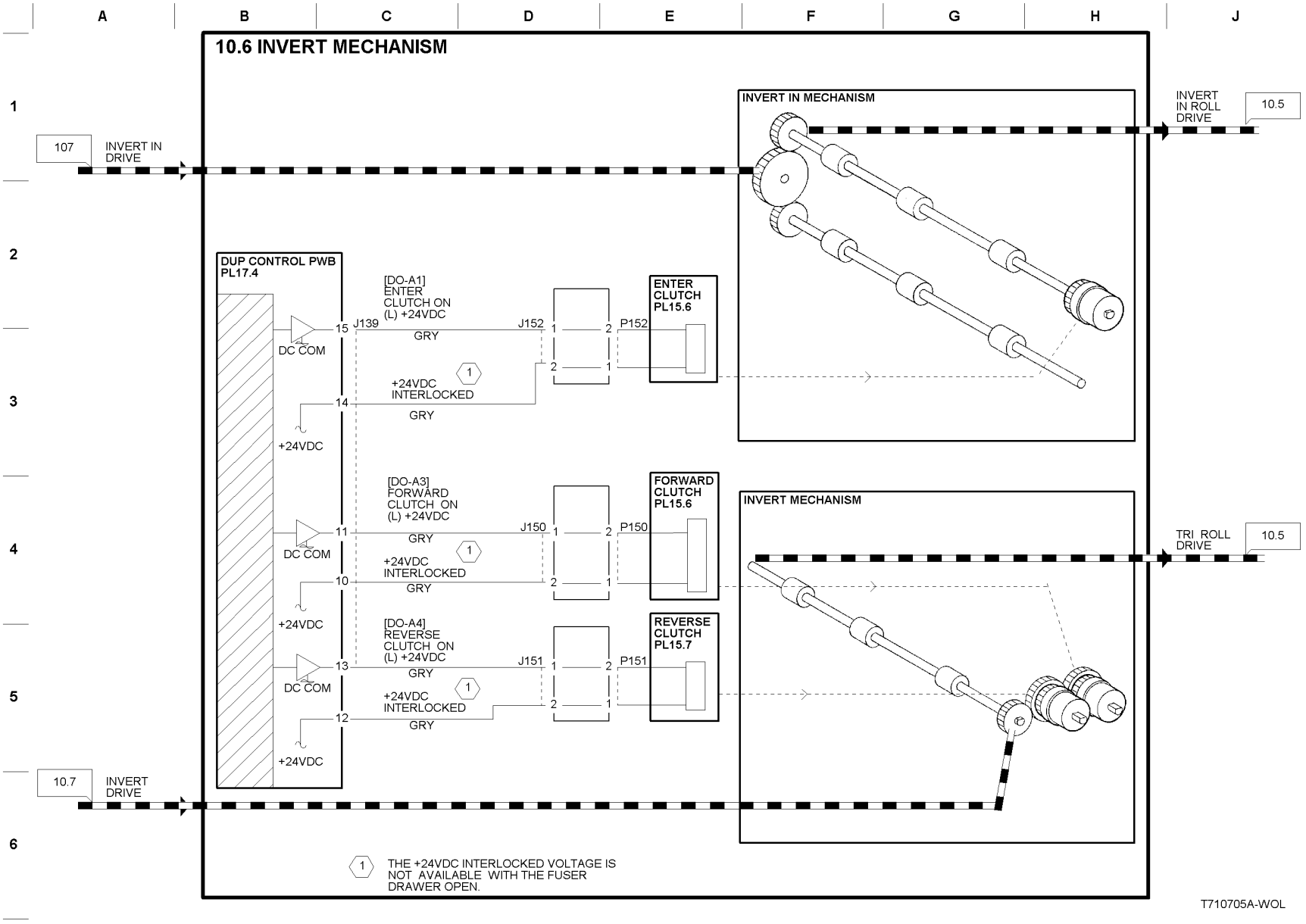


**Figure 1 Invert Mechanism**

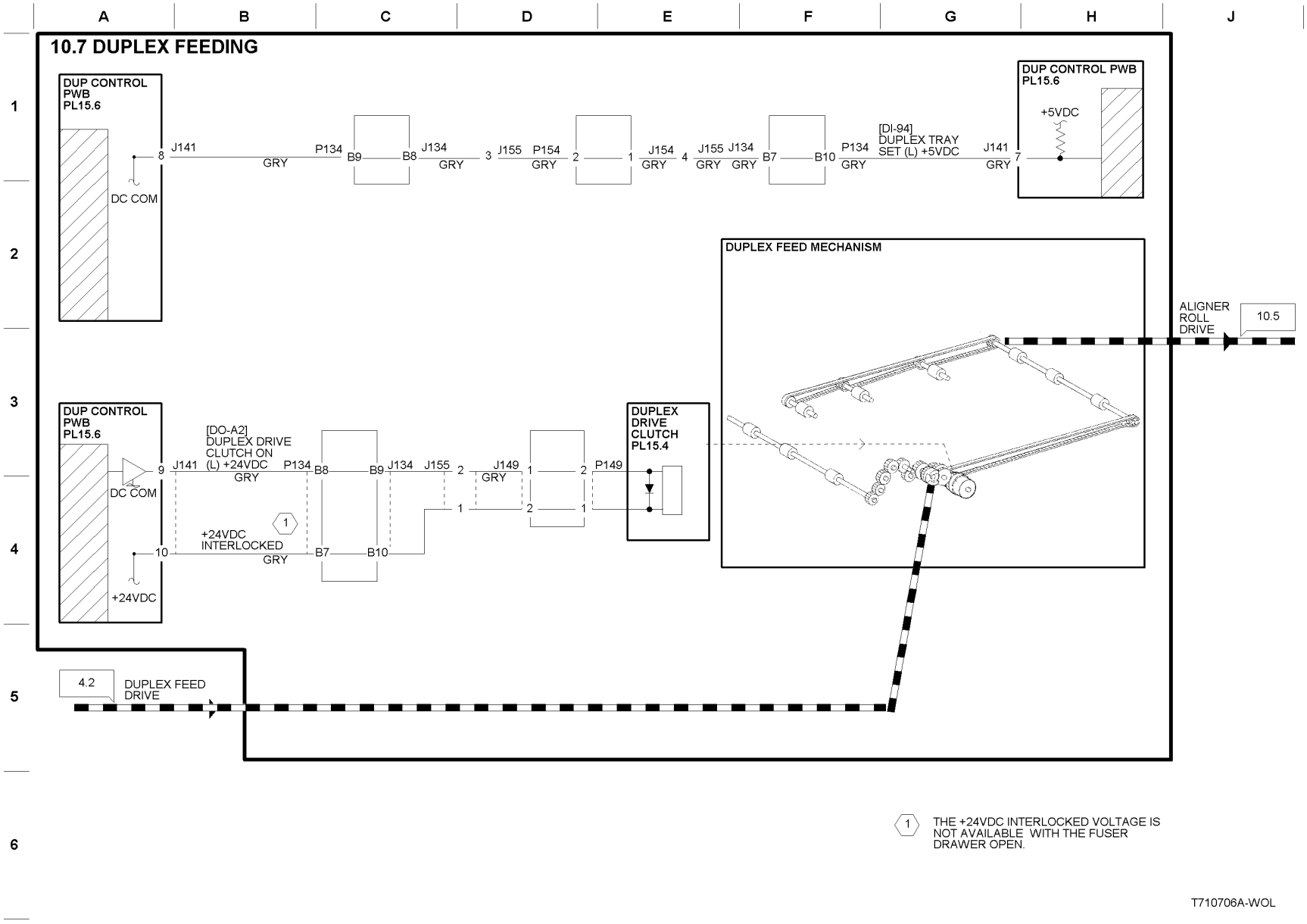


**Figure 1 Duplex Feeding**

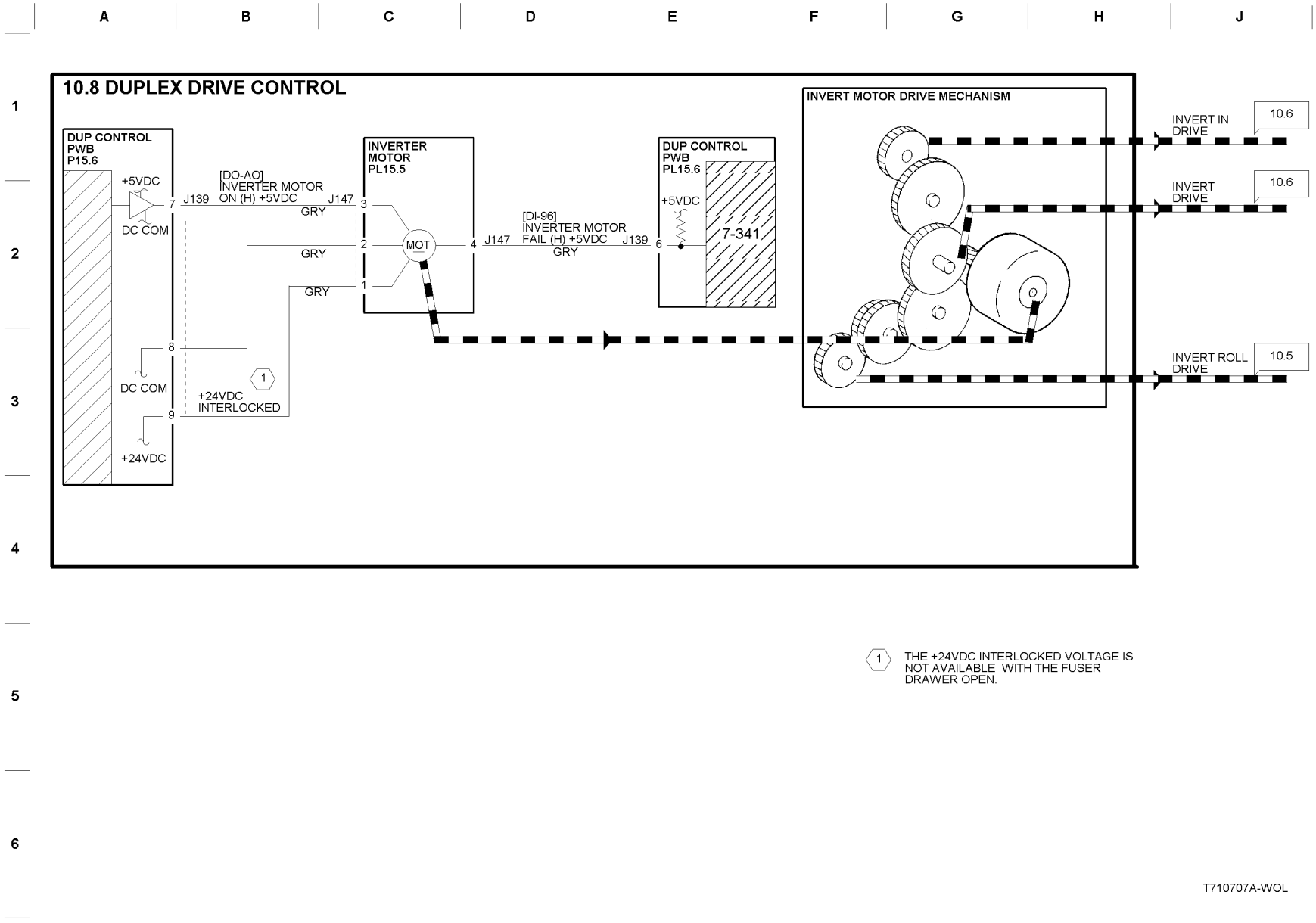


**Figure 1 Duplex Drive Control**

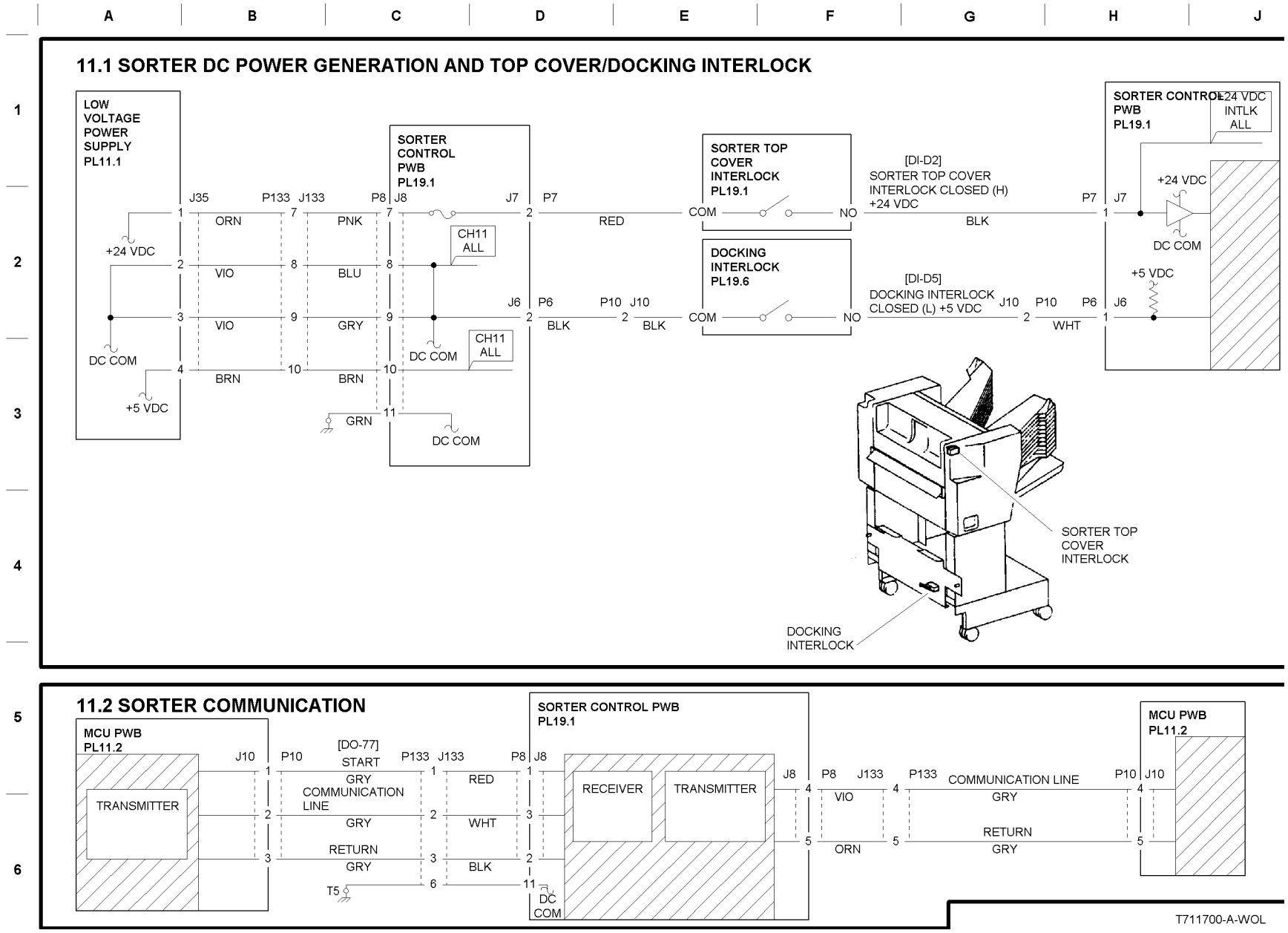


**Figure 1 Sorter DC Power Generation and Top Cover/Docking Interlock and Sorter Communication**

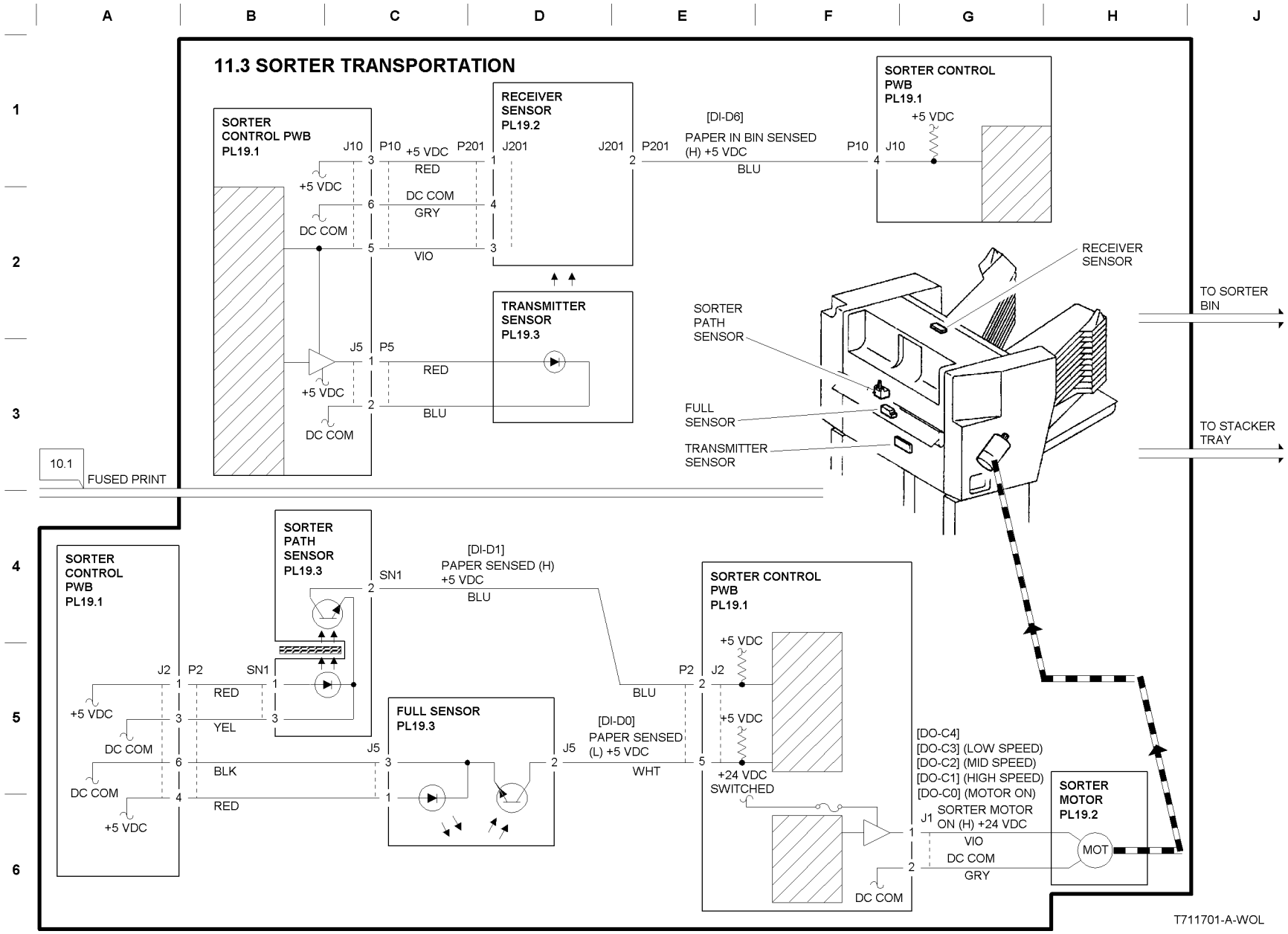


**Figure 1 Sorter Transportation**

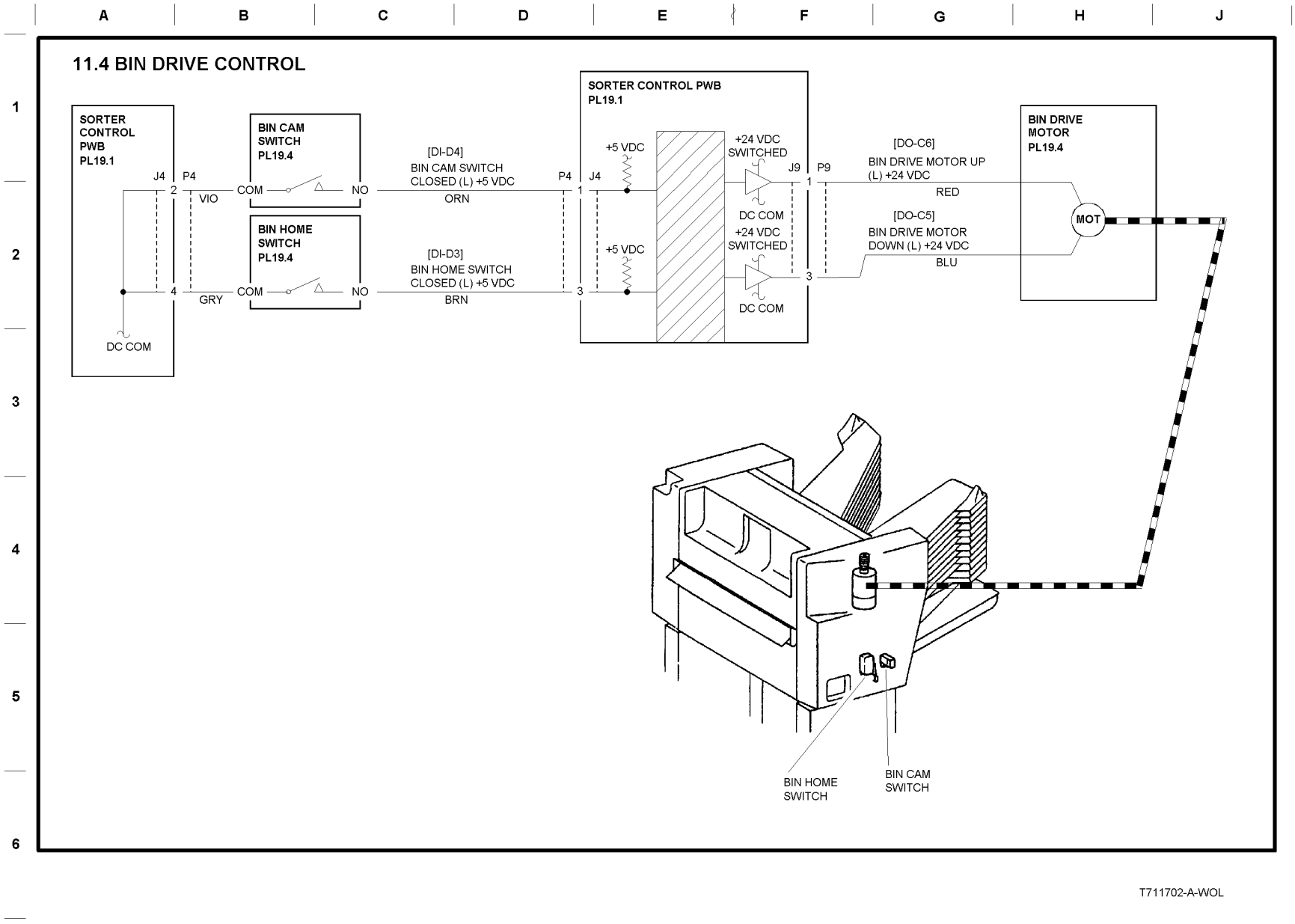


**Figure 1 Bin Drive Control**